



**UNIVERSITY OF<sup>TM</sup>  
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**INYUVESI  
YAKWAZULU-NATALI**

**AN IMPLEMENTATION ANALYSIS OF E- LEARNING: A CASE STUDY OF KWAPATA  
SECONDARY SCHOOL, DAMBUZA TOWNSHIP**

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Pietermaritzburg, South Africa.

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## **DECLARATION**

I, **Samukelisiwe Nicole Mkhize** declare that:

1. The research reported in this thesis, except where otherwise indicated, is my original research.
2. This thesis has not been submitted for any degree or examination at any other university.
3. This thesis does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
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## **DEDICATION**

This thesis is dedicated to all the powerful women in my lineage; my late great-grand mother (Jumaima Hadebe), late grandmother (Busisiwe Grace Mkhize) and mother (Thembelihle Ritta Mkhize): thank you for keeping me together. Thank you for affirming, inspiring and supporting me throughout my life thus far. I will always cherish your lives and respect your legacies of hard work and determination.

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## **ABSTRACT**

The use of information communication technologies (ICTs) is being re-introduced in the South African public schooling system as a development tool used to improve the quality of education and expand access to equal educational opportunities to all learners and teachers including previously disadvantaged schools and communities for full participation in education and society. The implementation of e-learning is guided by the White Paper on e-Education 2004 which was published as the South African governments' symbol of commitment to ensure that all learners are ICT capable and ICTs are used optimally for teaching and learning purposes. The efforts to harness the potential of ICT use through implementation of e-learning programmes in SA public schools have been met with the reality of limited government capacity in terms of ICT funding, investment and expertise to deliver ICT skills training and infrastructure to remote, over populated, ill-resourced schools in rural and township schools. This issue prompted the investigation into, the implementation of e-learning at KwaPata Secondary School, Dambuza Township in order to discover the factors that hinder or facilitate the implementation process.

Findings revealed that there is limited understanding of the purpose of e-learning amongst teachers and learners which is reflected in the teachers limited use of ICTs to information presentation which in turn diverts from the role of e-learning which is to create a learner-focused learning environment. The main barrier affecting teachers and learners ability to implement e-learning at KwaPata Secondary School is the lack of sufficient ICT resources and maintenance of ICT equipment for e-learning to take place in a structured way instead of the ad hoc manner. Consequently, the extent of e-learning implementation is restricted, resulted in only certain subjects being able to use the 'e-learning room' and ICT resources available at KwaPata Secondary School. However, this is not simply an issue of physical access, it is further complicated by teachers' lack of appreciation and motivation to use and develop coping strategies to overcome access challenges. In terms of the partnership, Dimension Data suffers from a lack of financial and human resource capacity to deliver alone, efforts to overcome these challenges are undermined by lack of co-ordination and communication amongst other relevant stakeholders. The partnership was established to overcome social and economic obstacles tasked with implementing e-learning, however, the study shows that the service provider is faced with the same problem of lack of adequate capacity, funding and support as government to effectively deliver ICTs alone.

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## **ACRONYMS**

<b>DD</b>	-	Dimension Data
<b>DoE</b>	-	Department of Education
<b>E-Learning</b>	-	Electronic learning
<b>GET</b>	-	General Education and Training
<b>HOD</b>	-	Head of Department
<b>ICT</b>	-	information communication technology
<b>ICESCR</b>	-	International Covenant on Economic, Social and Cultural Rights
<b>IDRC</b>	-	International Development Research Centre
<b>KZN</b>	-	KwaZulu-Natal
<b>M&amp;E</b>	-	Monitoring and Evaluation
<b>NIIT</b>	-	National Institute of Information Technology
<b>NGO</b>	-	non-governmental organization
<b>PPP</b>	-	Public-private partnership
<b>SA</b>	-	South Africa
<b>SGB</b>	-	School Governing Body
<b>SMT</b>	-	School Management Team
<b>Stats SA</b>	-	Statistics South Africa
<b>UDHR</b>	-	Universal Declaration of Human Rights
<b>UNESCO</b>	-	United Nations Educational, Scientific and Cultural Organization
<b>UNICEF</b>	-	United Nations Children's Fund

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## **CHAPTER ONE: INTRODUCTION**

### **1.1 Background to the study**

In developing countries e-learning is not just improving the quality of education but opening opportunities for full participation in education and society for those who are socially and economically excluded from many benefits of society and equipping the youth for the information economy (Kozma, 2005: 117). The apartheid education system entrenched gross educational disparities and inequities, spending more on white schools, lesser to Indian and Coloured schools and minimal resources to schools in Black communities. The distribution of unequal funding and educational resource allocation resulted in ill-resourced and under-performing schools in rural and township areas where the Black majority predominantly reside. Although, the education inequalities were most reflected in all areas of funding, the legacy of these policies is most evident in school infrastructure (Veriava, 2012). Unequal access to educational opportunities, resources and funding in rural and township schools perpetuated and reinforced high levels of poverty and unemployment as well as illiteracy in Black communities which socially and economically exclude communities from many benefits of society and opportunity to equip the youth for the information economy (Pavlich and Orkin, 1993: 3).

Since 1994 the democratic South African government has made incremental efforts to change the realities of the basic education schooling system including developing policy framework for basic education that is committed to redress past injustices in education provision.

Unfortunately unequal access to educational opportunities, resources and funding remain a challenge to education reform and continue to perpetuate and reinforce the social and economic inequalities in South African society (Veriava, 2012). These persistent challenges prompted the imperative to further develop the South African basic education system to empower previously disadvantaged schools and communities by expanding access to education and improving the provision of quality education for all learners through the use of information communication technologies (ICTs) to teaching and learning practices in public schools.

The use of information communication technologies is not a new phenomenon in the South African schooling system. In the 1980s computers were used in private and a number of well-

funded government schools mainly for administrative purposes and to a limited extend for teaching and learning purposes (Howie, 2005: 10). Post 1994 the use of ICTs for classroom teaching and learning (e-Learning) is being re-introduced to all public schools to improve the outcomes of the schooling system, enhance the quality of education and open up opportunities for full participation in education and society for those who are socially and economically excluded from many benefits of society and equipping the youth for the information economy.

In 1995 e-learning was placed on the government's agenda as a possible way to reform the South African education system and distribute ICTs to local, ill-resourced schools to improve education delivery, access to quality teaching and learning and prepare secondary school learners for the knowledge economy. In 2000, a few uncoordinated provincial interventions namely: the Khanya Project in the Western Cape and Gauteng Online headlined the piloting of e-learning in several schools through public-private partnerships (PPPs) with various telecommunications companies (Isaacs, 2007: 15). Thereafter, the SA government published the *White Paper on e-education 2004* in 2004 as a symbol of commitment to deliver ICTs to all schools and ensure the ICT capability of learners and teachers by 2013. It provides for the provision of teacher training and access to computers for e-learning implementation in schools (South African Government, 2004). This policy goal was not achieved due to resource constraints efforts. Efforts are undermined by factors such as social and financial constraints and geographical barriers and other capacity challenges related to delivery (South African Government, 2014: 10). According to the South African Institute of Race Relations, only 40.9% of 28 000 schools have access to one or more computers and in Kwazulu-Natal just 33% of schools are reported to have computer facilities for teaching and learning (Shezi, 2016: 1).

Provincial Education departments are working in partnership with various service providers to distribute educational opportunities to all public schools through various public-private partnership interventions. The public-private partnerships are encouraged to overcome social and economic challenges to ICT delivery in order to ensure successful implementation of e-learning in schools. The reality is that providing ICT skills training and infrastructure is an expensive and labour intensive task for government to deliver alone. For e-learning to be used as an effective developmental tool to bridge the digital divide, reliable ICT funding and investment from government and its partners is essential (Alfreds, 2016:1). The central

problem to e-learning implementation is a lack of funding to invest to manage and deliver ICT training and resources, network data and connectivity infrastructure in SA schools. The aim of this study is to analyze the implementation of e-learning at KwaPata Secondary School in order to understand what factors hinder or facilitate the implementation process.

## **1.2 Research Questions and Objectives**

The key questions related to the implementation of e-learning through PPPs at KwaPata Secondary School are:

- What are the teachers and learners understanding of e-learning at KwaPata Secondary School?
- What are teachers' experiences of the implementation of e-learning in their teaching at KwaPata Secondary School?
- What are learners' experiences of using e-learning at KwaPata Secondary School?
- What ICT facilities and resources are available at KwaPata Secondary to implement e-learning?
- What are the challenges or opportunities encountered in implementing e-learning using a PPP model at KwaPata Secondary School?

The research objectives are:

- To establish teachers' and learners' understanding of e-learning in schools.
- To investigate teachers' experiences of implementing ICT skills in their teaching.
- To establish learners' experiences of e-learning as new mode of education delivery
- To establish the availability of ICT facilities and resources necessary to implement e-learning.
- To investigate the challenges or opportunities encountered in implementing e-learning using a PPP model.

## **1.3 Research Design**

### **1.3.1 Research Methodology**

This study used a qualitative research methodology. Qualitative research studies people's "experiences, opinions and knowledge as well as organizational functioning and interactions" (Patton, 1990: 11). The interpretivist paradigm underpins the qualitative

approach, it aims “to describe and analyze the culture and behaviour of humans and their groups from the point of view of those being studied” (Bryman, 1992: 46). The qualitative methodology is appropriate to this study because it focuses on learners and teachers experiences and understanding of e-learning as beneficiaries of the programme as well as the experiences and interactions of the KZN Education ICT Manager and Dimension Data Managers of implementing e-learning at KwaPata Secondary School.

### **1.3.2 Case Study Approach**

This study used a case study approach. A case study approach is an in-depth inquiry of specific programme, event, activity, process, or one or more individuals (Creswell, 2014:13). The case study for this study is KwaPata Secondary School, a public state school located within the uMgungundlovu District in KwaZulu-Natal. It consists of 228 schools, 82 of those schools are secondary schools (Department of Education, 2015:112). KwaPata Secondary School is a no-fee, quintile 3 school with an average of 1004 learners (ibid). This study conducted an in-depth inquiry of the e-learning implementation process at KwaPata Secondary School.

### **1.3.3 Data Collection Methods**

Focus groups and semi-structured interviews were used to collect primary data. A focus group is a group discussion about specific topic around research question facilitated by the researcher (Du Plooy et.al, 2014: 183). Semi-structured interviews involve the use of a pre-determined set of open ended questions to gain information on a specific activity, idea or program (Du-Plooy et.al, 2014: 183). Two focus groups were conducted with five teachers and five learners. The interviews were conducted with key informants who are responsible for the effectiveness of the public-private partnership implementing e-learning at KwaPata Secondary School. Three interviews were conducted with: the School Principal, the Dimension Data e-Learning Unit Manager and the KZN Department of Education ICT Unit Director. Secondary data sources were also utilized in the form of official policy documents, published research studies on implementation and public-private partnerships and journal articles and books relating to implementation of e-learning using public-private partnerships.

### **1.3.4 Sampling**

This study adopted the non-probability sampling method. It employed a combination of purposive and convenience sampling methods. The purposive sampling technique allows the

researcher to gain important information into a particular matter, using information gathered from relevant participants (Babbie and Mouton, 2001: 166). Purposive sampling was used for the selection of participants for the in-depth interviews. The School Principal, ICT Director at the Department of Education and the e-learning manager at Dimension Data were purposively selected to participate in the in-depth interviews. They are identified as key informants based on their involvement in the delivery of ICTs and facilitation of e-learning at KwaPata Secondary School.

Convenience sampling is a type of non-probability sampling where a target population meets certain practical criteria at a given time (Maree, 2007: 104). Convenience sampling technique was utilized to select participants for the focus groups. Five teachers and five learners were conveniently selected to participate in the focus groups. The teachers will be selected because they teach at KwaPata Secondary and the learners were chosen because these teachers at KwaPata Secondary School teach these learners. The chosen teachers and learners were selected because they were the most easily accessible to the researcher because of geographical proximity, and the availability and willingness of participants to participate.

### **1.3.5 Qualitative Data Analysis**

This study used qualitative data analysis and thematic analysis using manual coding according to themes. Qualitative data is detailed, thick description and in-depth inquiry from direct quotations carrying people's personal perceptions (Patton, 1990: 40). Thematic analysis is used to identify patterns and themes within the data to draw conclusions from the data (Mouton, 1996:111). Themes identified in the data are concepts that are important to the description of a phenomenon and are associated with a specific research question (Ibid). The themes are extracted from the theoretical and conceptual framework of the study and emerge from the data relating to the study. Themes focused on conception of e-learning; delivery of ICT facilities and resources as well as the challenges and opportunities facing e-learning implementation using PPP model and factors affecting PPP outcomes. The data collected from the focus group discussions and interviews was tape-recorded and transcribed verbatim, meaning it was rewritten word for word to keep an accurate record of participants' responses.

#### **1.4 Structure of dissertation**

**Chapter One** provides the background to the study and outlines the research questions and objectives of the study. Further, it lays out the research methodology used to conduct the study.

**Chapter Two** provides an overview of existing literature on e-Learning implementation and PPPs implementing e-learning initiatives.

**Chapter Three** presents the conceptual and theoretical framework guiding the investigation; it includes discussion on public policy, policy implementation theories, public-private partnership (PPP) concepts and e-learning concepts. .

**Chapter Four** analyses the policy and legislative framework that guide Basic Education, e-Learning and Public-private partnerships in South Africa.

**Chapter Five** analyses and presents the findings according to research questions.

**Chapter Six** draws the conclusions as revealed by the findings of the research study.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter presents an overview of the literature related to the use of ICTs in education, factors affecting e-learning implementation in schools, challenges and success of public-private partnerships in implementing e-learning programmes. The literature overview identifies and brings into a coherent form the issues to be taken into consideration when implementing the use of ICTs in secondary schools. It discusses the intended purpose of e-learning in South African secondary education, the social and economic challenges presented by the digital divide to the implementation of e-learning in South African public schools and issues affecting access to and use of ICTs in secondary schools. The discussion is exemplified using various international, regional and national cases of public-private partnerships in implementing e-learning programmes in developing countries. The chapter is divided into four sections: the role of information communication technologies in secondary education, the digital divide: challenge to e-learning implementation, factors affecting access to and use of ICTs for e-learning and lastly, e-learning implementation through public-private partnerships. It concludes by providing a summary of the contents in the chapter.

### **2.2 The Role of Information Communication Technologies in Secondary Education**

Information communication technologies (ICTs) are transforming all aspects of society, promoting technological advancements in numerous sectors including health, commerce and science. Its potential to transform the education and training arena is widely acclaimed. However, Hawkins (2002: 38) argues that ICT advancements in the public schooling systems have not occurred as progressively as in other systems. Hawkins (2002: 38) contends that, there is an increasing need to adapt to a modern way of education delivery by embracing ICT advancements in the education sector by transforming education delivery. According to him the way that learners learn and the way teachers teach has remained largely unchanged, using traditional chalk and black board teaching methods and learners having to record information from blackboard (ibid). These observations are based on the reality that, today's information and knowledge-driven world requires a whole new set of skills; learners need to be able to use technology to access new information, transfer and present information using modern information communication technologies in order to adapt in the workplace.



Similarly, Czerniewicz and Brown (2005: 45) advocate for the use of ICTs in the South African schooling system but argue that these technologies can only play a significant role in enhancing the quality of education in schools when schools have access to and are able to effectively use ICTs to conduct classroom teaching and learning. Further, in order to harness the potential benefits of these technologies in education, the discussion about access to ICT must make clear what its intended purpose is, or might be (Czerniewicz and Brown, 2005: 45). This is important because the term ICT is an umbrella concept that encompasses a wide range of hardware (*desktop and portable computers, projection technology, calculators, and digital-recording equipment*), software applications (*generic software, multimedia resources*), and information systems (*Intranet, Internet*) available in schools for teaching and learning use (Hennessey et.al, 2005: 155). According to Czerniewicz and Brown (2005: 43) the term does not have any meaning in isolation, these technologies acquire relevance in education only in relation to a particular function whether it is explicit or implicit, and that function is the way through which ICTs gain purpose and context. As the former South African Minister of Communications Ivy Matsepe-Casaburri expressed “there is no doubt that ICTs can be very effective tools. The question is tools for what?” (Czerniewicz and Brown, 2005: 43).

The role of ICTs in the South African school system is closely related to the need to address prevalent problem of poor educational results and the need to ensure that learners receive quality education and equal educational opportunities especially in previously disadvantaged communities. The national ICT in education policy (the *White Paper on e-Education 2004*) explicitly states the role of ICTs in the education as being “to accelerate the achievement of national education goals...e-Education is about connecting learners and teachers to each other and to professional support services, and providing platforms for learning” (South African Government, 2004: 14). It envisages ICTs as playing a significant role in creating new teaching and learning platforms that connect learners and teachers to better information, ideas and one another via effective combinations of pedagogy and technology in support of educational reform (ibid). According to this vision, ICTs are projected to become a catalyst for change; changing and improving the ways in which teachers and learners’ access and exchange information, teaching methods, learning approaches (Mikre, 2011: 109).

A relevant education is more important today than ever, because today’s information economy demands a workforce that understands how to use technology as a tool to increase

productivity and creativity and that this idea of information economy has made it necessary for all countries to involve and focus on local and international development trends in order to develop including capacitating secondary school learners with 21<sup>st</sup> Century skills (Hawkins, 2002: 38; Hammed, 2007: 1). Aligned with this argument, the use of ICTs in the secondary schooling system is driven by the need to meet national and international requirements of the changing nature of work, the realities of the information economy and an awareness of the need for equal distribution of educational opportunities for all citizens (South African Government, 2004: 8). Voogt and Roblin (2012) classified the requisite skills as: critical thinking, problem solving, collaboration, creativity and communication which learners can gain when learning opportunities are presented through the utilization of ICTs. Therefore, access to ICTs becomes essential because “exclusion will mean severely limiting life chances” for certain groups in society (Czerniewicz and Brown, 2005: 45).

### **2.3 The Digital Divide: Challenge to e-Learning Implementation**

The discussion has focused on the imperative of the acquisition and development of ICT skills and resources to improve the quality of education through integration of ICT use in classroom teaching and learning as well as enhance social and economic development. There is an important issue that needs to be addressed for teachers and learners to be able to acquire and use ICTs for e-learning; provision of adequate access to ICTs in schools for e-learning implementation. Access to ICTs is a critical issue because the benefits of ICT use can only be experienced by those who have frequent and adequate access to ICTs (Czerniewicz and Brown, 2005: 45). The disparity of physical access between those who have access and those who do not have access to ICT services and facilities is known as the digital divide.

Generally, the gap in access may be a result of differences in class, race, age, culture, geography or other factors which effectively deprive certain citizens from participating in the global economy (Kozma, 2008: 117). The obvious divide is illustrated in income disparity. A report by Wide World Wox (2017) revealed that “among adult South Africans earning more than R30 000/month, Internet penetration is at 82.4%. Penetration declines rapidly as income declines, falling to 61.3% for those earning between R14 000 and R18 000/month, 42% for those earning between R3 000 and R6 000/month, and below 30% for those earning below R2 500/month” (McLeod, 2017). Furthermore, education is also identified as a barrier to internet access, according to the report those who have an education below grade 7 have less than 20% access, less than 40% access for those with less than a grade 11 have internet

access, whereas, those with a post matric qualification estimate at 71.6 % (ibid). Disparities exist between developed and developing countries. 6.8 per 100 people have internet access in South Africa this is way ahead of the rest of Africa, which averages 1.4 per 100 people. But South Africa still lags behind developed countries: 42 in 100 people for the United Kingdom and 55 in 100 people in the United States have Internet access (All figures ITU 2014).

Given the oblique access to resources and the fundamental inequalities that continue to characterize South African society, an emphasis on technological access is understandable. Other studies indicate that there is a direct link between the resources in a school and its results, pupils in well-resourced schools perform better than their counterparts in poorly resourced schools. While direct numbers are difficult to obtain, it is clear that school access to computers in developed countries is substantially higher. For example, the percentage of computers available to 15-year-olds at secondary schools in the United States is 73% and in the United Kingdom 78% (OECD 2015).

Comparatively, in South Africa, the South African Institute of Race Relations reports that only 40.9% of 28 000 schools have access to one or more computers and in Kwazulu-Natal just 33% of schools are reported to have computer facilities for teaching and learning (Shezi, 2016:1) (see **Figure 1**) . According to Veriava (2012: 1) the extent of South African public school infrastructure disparity can be seen between former model C (historically white) schools that have well equipped laboratories and libraries compared to a wide spectrum of schools in rural and township schools that are in a state of disrepair and receive low resource allocations.

**Figure 1: South African public schools and facilities by province**

<i>Province</i>	<i>With electricity</i>	<i>With water</i>	<i>With library</i>	<i>With laboratory</i>	<i>With computer facility</i>	<i>With sports facilities</i>
Eastern Cape	95.5%	95.6%	8.4%	5.7%	10.8%	40.6%
Free State	97.0%	97.3%	35.0%	26.7%	35.5%	67.2%
Gauteng	100.0%	100.0%	63.2%	33.3%	80.2%	77.5%
KwaZulu-Natal	89.6%	96.9%	24.0%	11.4%	33.2%	45.3%
Limpopo	100.0%	100.0%	6.5%	6.0%	14.9%	67.9%
Mpumalanga	99.1%	99.7%	18.9%	12.4%	39.7%	70.9%
North West	99.9%	99.9%	22.4%	18.9%	40.0%	72.6%
Northern Cape	99.4%	100.0%	27.8%	17.0%	54.8%	69.8%
Western Cape	100.0%	100.0%	54.9%	33.3%	59.2%	75.1%
<b>South Africa</b>	<b>96.1%</b>	<b>98.0%</b>	<b>29.0%</b>	<b>18.3%</b>	<b>40.9%</b>	<b>57.8%</b>

*Source: DBE, NEIMS, Standard Reports as at 12 May 2015, accessed 28 August 2015*

Source: DBE, NEIMS, Standard Report (cited in Shezi, 2016).

Despite this unpromising reality on physical access, there is a growing recognition that physical access to technology itself is necessary but insufficient to ensure use for teaching and learning (Czerniewicz and Brown, 2005: 45). It is an important contributor but not the sole enabling factor. Several researchers have argued that this limited understanding of access to ICT should evolve beyond the separation of haves and have nots focusing on merely physical access in terms of actual availability of ICTs because there are other factors that affect schools access and use of ICTs for e-learning implementation beyond the presence of ICTs in schools. Therefore, investigation into establishing access to ICTs for pedagogical use in schools should move beyond just physical access to all factors affecting access and use.

#### **2.4 Factors affecting access and use of ICT for e-learning**

An international study by Journell (2010) aimed at gaining an understanding of the nature of e-learning in secondary education, examined learners and their teachers' perceptions and experiences of e-learning. The findings revealed that attitudinal and individual challenges such as teachers' lack of motivation and lack of appreciation for ICT use can be solved by proper ICT training and knowledge simultaneously with ICT infrastructural roll out (Journell, 2010: 80). Journell (2010: 80) argues that there is gap in the literature on learners and teachers experiences of e-learning implementation. He further argues that this is a symptom of a bigger issue of teachers and learners not having adequate understanding of e-learning and insufficient training of teachers to use e-learning effectively in schools (Journell, 2010: 74).

The struggles and misconceptions of teachers and learners reveal that education officials are too eager to embrace educational trends without taking the necessary steps to assess the effectiveness of such programs or fully train their personnel to implement them (ibid).

Journell (2010:74) suggests that for e-learning to be a viable approach decision makers need to aim to examine and change experiences of secondary teachers and learners as well as create other avenues to ensure successful e-learning implementation in schools especially in countries where e-learning is not well established.

Gulati (2008: 19) conducted a study on ICT enhanced learning in secondary schools in various developing countries and questioned whether technology enhanced learning helps to address poverty, literacy, social and political problems in developing nations. He found that lack of funding and lack of ICT resources are the main barriers to physical access and use of e-learning in developing country (Gulati, 2008: 33). A regional study by Agbo (2015) investigated the factors affecting the use of ICT in teaching and learning in schools in Ohaukwu Local Government Area of Ebonyi State, Nigeria. The study affirms that while physical access is an important issue to achieve successful e-learning implementation, it is not dependent on the availability or absence of one individual factor, but it is determined through a dynamic process involving a set of interrelated factors. A study in India by Zaman et.al (2016: 10) categorized these factors as: (1) individual challenges, related to behavioral and interpersonal issues; (2) attitudinal challenges, related to attitudes and perspectives of end users of e-learning and (3) contextual challenges, related to lack of ICT skills, resources and organizational issues.

The challenges found by Zamani (2016: 10) are similar to those found by Slabbert (2015:1) in South African secondary schools. The South African study investigated factors influencing teachers and learners use of ICTs for teaching and learning (Slabbert, 2015: 1). The study revealed that South African secondary schools are characterized by the following issues that affect the use of ICTs for teaching and learning: (1) *physical and infrastructural challenges* resulting from; lack of access to ICT resources, lack of funds for ICT infrastructure including network data and connectivity; (2) *human and individual challenges* related to teachers' lack of understanding of e-learning, lack of motivation/appreciation of ICT use in their teaching, learners and, inexperienced and untrained teachers, lack of technical support and (3) *institutional challenges* related to provision of adequate ICT training programmes for

teachers, and uncoordinated partnerships between provincial government departments and private partners (Slabbert, 2015: 1).

### **2.5 E: Learning Implementation through Public-private partnerships**

Due to the high poverty rates in many African states, governments generally lack necessary skill and resources to implement e-learning programmes. This begs the question how to implement e-learning in schools? A regional study by Kozma (2008) on African states e-learning implementation in public schools revealed that providing ICT skills training and infrastructure is an expensive and labour intensive task for government to deliver alone. This challenge has led to other organisations such as private business and non-governmental organizations (NGOs) joining in to support and invest in public-private partnerships to provide ICT services to schools in an effort to overcome capacity issues related to delivery of ICTs (Kozma, 2008).

Hawkins' (2002) report on 'Ten Lessons for ICT and Education in the Developing World' argues that a single ministry of education cannot deliver ICTs to schools alone, instead governments need to form strategic public-private partnerships to succeed. Hawkins (2002: 41) uses Indian states as an example of a developing country that employs public-private partnerships to overcome government delivery incapacities for e-learning in schools, the partnership between the Karnataka state and National Institute of Information Technology (NIIT) draws attention to the challenges and successes experienced by PPPs implementing e-learning. The partnership was successful in equipping seven hundred schools with ICT labs in an astonishingly short period of just forty-five days, equipping and maintaining the school computer labs and providing instructors for technical training for learners during school hours, Hawkins (2002: 41) found that, the intervention experienced some unforeseen externalities, according to the Project Manager, Ravi Kiran: "in some districts, there was nothing before we started this project. We brought power and telecommunications services to these areas where none existed before" (ibid). Delivering ICTs for e-learning implementation in remote, ill-resourced schools puts a strain on partnerships ability to ensure successful implementation.

Despite the challenges of e-learning implementation, Chijioke (2007) maintains that the most sustainable way to deal with poverty is to develop an inclusive education system. Further Chijioke (2007: 60) argues that, the roll out of information communication technologies

enhances the quality of secondary education in South Africa and expanding its access is a development measure that reduces poverty in rural and urban communities. Chijioke (2007: 95) examined the Mindset Network Organization and the Khanya Educational Technology Project in South Africa as case studies to study how collaborative partnerships contributed to e-learning implementation in secondary schools. The study revealed that deliberative efforts to join forces and resources of both public and private partners is essential to effective implementation of e-learning in education and to overcome the digital divide and ensure effective access and use of ICTs in South African secondary education.

Chijioke's (2007: 60) study suggests that, even though the roll out of information communication technologies enhances the quality of secondary education in South Africa and expansion of physical access is a development measure that reduces poverty in rural and urban communities in the country, implementation needs to be guided by an ICT in education policy which plays a central role for the effectiveness of such reform in education. Pillay and Hearne (2009:73) contribute that national ICT in education policy is the main driver of partnerships between governments, NGOs and the private sector to show support and interest to enable sharing of resources to overcome the social and economic barriers to ICT access, and effective use in schools by teachers and learners. According to their view, PPPs are an effective tool to overcome challenges of limited funding, technical support and project management capacities in e-learning implementation (Ibid). However, PPPs in education face various challenges in implementing e-learning and are not 'a one size fits all' in all developing countries, therefore, the experiences of PPPs in e-learning implementation have to be investigated by governments to ensure success (Chijioke, 2007).

## **2.6 Conclusion**

Implementing e-learning is not an easy task. It is essential that a country establishes the purpose for introducing information communication technologies into the education system because it forms a foundation for effective use. Moreover, the purpose of using ICTs for teaching and learning must be reflected in the definition of e-learning. The literature reveals that the digital divide amongst communities and nations remains a challenge to access and use of ICTs for teaching and learning. However, the issues posed by the digital divide need to be understood in relation to other contextual, individual and social factors that need to be addressed. Furthermore, the chapter used examples from various developing countries' PPP initiatives employed to overcome these issues and ensure successful implementation of e-

learning in schools. The initiatives reveal varying results of success and failure as a result of different factors contributing to the results. The problem however is that whilst existing, noble and well intentioned initiatives are making a useful contribution towards this objective, many areas in remote locations are still equipped with minimum resources and minimum ICT resources to implement e-learning. However, PPPs are identified as a useful mechanism to overcome social and economic issues affecting e-learning implementation.

As Chijioke (2007) suggests, PPPs in education are not ‘a one size fits all’ in all developing countries, therefore, the experiences of PPPs in e-learning implementation have to be investigated further to ensure success implementation. Also, there is a need for further investigation into experiences of secondary teachers and learners in order for e-learning to be a viable approach to education delivery in South Africa. Therefore, part of this study aims to investigate teachers’ experiences of the implementation of e-learning in their teaching at KwaPata Secondary School, and learners’ experiences of using e-learning at KwaPata Secondary School and challenges or opportunities encountered in implementing e-learning using a PPP model at KwaPata Secondary School.



## **CHAPTER THREE: CONCEPTUAL AND THEORETICAL FRAMEWORK**

### **3.1 Introduction**

This chapter presents the conceptual and theoretical framework which guides the study. The study presents policy implementation theories to analyze the implementation challenges and opportunities encountered by public and private actors in the delivery of public policy. Public-private partnership (PPP) concepts are employed to examine the relationship between the private and public actors, the governance processes and structures involved in the implementation process. The study uses e-Learning concepts as the conceptual framework to analyze the issues relating to an understanding of e-learning, challenges affecting teachers and learners use and access in schools as well as the factors necessary for ensuring effective ICT access and use. The chapter begins by defining the public policy, presents an analysis of the policy cycle, defines policy implementation, and outlines the approaches to public policy delivery and the challenges and conditions for successful policy implementation using PPPs. Thereafter, it discusses the purpose of e-learning, challenges affecting e-learning implementation and lastly, the necessary conditions for the success of e-learning implementation.

### **3.2 Public Policy Theory**

According to Dye (2012) all public policy definitions can be explained as “what government chooses to do or not to do”. He sees policies as conscious decisions rather than unintentional or unexpected non-responses or responses to address an identified public problem or need in society (ibid). The way in which government intervenes varies from regulations to delivery of public goods and services aimed at solving the particular policy issue. This perspective relates to the process of policy, as Laswell (1958) contends policies are made up of policy goals and policy means, the intentions (aims and objectives) and process (activities). Laswell (1958)’s exploration of policy is useful because it recognizes that, policy cannot be understood simply as a single decision carrying government intentions. Policy is a complex and ever-changing process that takes places on multiple levels. The means are understood as the various ways through which government carries out policy activities from governance arrangement such as PPPs. This study focuses on the process of policy, specifically it analyses the implementation process.

### 3.3 Public Policy Process

The policy making process is typically viewed as a systematic, conscious attempt to match the means of policy to policy goals. It is used as a problem-solving tool in which financial and human resources are invested into a series of activities that are presumed to bring about the desired change and achieve aims and objectives. Howlett et.al (2003: 19) explains the policy process embodies the effort to improve peoples' lives through the use of reason to direct human activity in the process of governing. However, the process is a highly political and technical process which makes it increasingly unpredictable, as Hill and Varone (2017: 7) point out, “the policy process may not always follow a systematic order, rather every process is continuously interacting with every other process”. Nevertheless, the policy cycle is useful for systematic analysis of the policy process. There are various models of the policy cycle with different stages. Colebatch (2002: 43)'s model showcased below (**Figure 2**) follows this sequential order: a) problem identification, b) agenda setting, c) decision making, d) policy implementation, f) evaluation. However, emphasis is placed on the implementation stage because it is the focus of this study.

**Figure 2: Policy cycle**



Source: Adapted from Colebatch (2002: 43)

### 3.4 Policy Implementation Theory

#### 3.4.1 Conceptualizing policy implementation

If we understand public policies as the expression of governments' intention to do something, the implementation process is the relationship between governments' expression of intent and

the actual outcome obtained (O'toole, 2002: 22). Public policies are designed to realize societal goals but without implementation these goals may not be achieved. As Pressman and Wildvasky (1973) argue, the implementation process is crucial because it is the stage where implementers attempt to link their activities to the achievement of policy aims and objectives. It encompasses implementers' ability to convert mainly physical and financial resources into concrete service delivery outputs in the form of public facilities and services (Cloete and de Coning, 2011: 137). This stage is about the study of change, how it happens and how it can be created. Therefore, policy implementation theory is about understanding who, how and why policy is put into effect in order to achieve its intended goals and objectives.

The process comprises of the involvement of multiple stakeholders from inside and/or outside government who are directly or indirectly involved in carrying out policy or programme specifications in order to achieve the aims and objectives (Hill and Hupe, 2002: 46). Even though, policy making is the prerogative of government officials, actors from outside government may be involved in carrying out programme activities. This shift towards collaboration of public and private actors may be explained by the social and economic changes taking place globally that are creating new and complex challenges for government spending and rising public expectations for improved service delivery. This calls for the involvement of private actors to assist government to overcome social and economic obstacles by investing in and supporting government interventions. If a policy cannot be effectively implemented it does not achieve its aims and objectives nor can it effectively improve the lives of beneficiaries. Therefore, formulated policies must be functional and proved to be, in order for achieving its aims and objectives.

However, it cannot be assumed that implementation is merely putting a plan into action as it is stipulated. As O'Toole (2000) points out, the implementation process is concerned with what takes place between the development of government's intention to do something, or stop doing something, and the ultimate impact in the world of action. It is vital for implemented policies to have an impact on the environment and/or beneficiaries where services and goods are delivered. Impact however is not an easy task to achieve because it is difficult to implement in a way that pleases everyone including all beneficiaries (Bardach, 1977:3). Implementing agents are faced with challenging obstacles when putting policies into action, and often they may need to make their own decisions as far as how to solve issues that affect services and facilities delivered to beneficiaries and enhance impact on their lives. In this

regard, policy implementation theory assists in explaining how implementing agents conduct their affairs and interact, what motivate them to act in the way they do and what might motivates them to act differently (Parsons, 1995: 461).

### **3.4.2 Approaches to policy implementation**

While the process of policy implementation is crucial for the attainment of policy objectives, its study has not led to generalizable theories regarding the factors for achieving success (Linton, 2002: 34). Sabatier (2007: 3) argues that it is often questionable in policy studies so much so that much greater understanding of the nature of the policy implementation process is still needed in order to assist policy makers to establish the appropriate means to reach their objectives. The traditional approaches to policy implementation are top-down and bottom up. The top-down approach views successful policy implementation as a result of central command from the top where power and control is held and low-level workers are bound to follow the rules from the top (Parsons, 1995: 465). In contrast, the bottom-up approach acknowledges that the complexity of the process and that different stakeholders play a critical role during implementation. It supports the view that the role of the target groups and those who deliver services should be seen as central to the policy implementation process (Parsons, 1995: 467).

Various scholars have proposed models, approaches and processes that underpin the theory of policy implementation that attempt to explain why and how things happen in a particular way and what factors obstruct or facilitate the success of implementation. Public policies aim to produce or lead to improvement in people's lives and therefore policy makers should seek out the best means to carry out tasks in order to achieve their desired ends (Brinkerhoff and Crosby, 2002: 3). Approaches to policy implementation are a critical element to the success of this process because the implementation process is shaped by the means through which the policy decisions are translated into action. Approaches to implementation have extended beyond discussion of the two traditional approaches; top-down and bottom-up approaches and to modern service delivery modes encompassed in delivery mixes and systems. The discussion focuses on delivery mixes as a modern way of policy delivery; in particular public-private partnerships are discussed because the study aims to investigate the challenges and opportunities encountered in implementing e-learning using a PPP model at KwaPata Secondary School.

### 3.4.3 Delivery Modes

Parsons (1995: 492) observes that in the real world there are delivery mixes and modes through which a government can choose to implement policy. Parsons (1995:491) identifies four types of policy mixes in delivery systems: (1) the *sectoral mix*, in which services may comprise a mix between public and private responsibility, as well as between the voluntary sector and ‘community’ agency which may have a role in delivering a service; (2) *enforcement mix* which emphasizes compliance and enforcement capability of policies; the (3) *governmental mix* where great emphasis is placed on decentralization of government service delivery activities taking place from the local and provincial levels rather than national government level and lastly, the (4) *value mix* explains that behind the choice between the delivery mixes, lies a set of values which shape understandings and informs decisions and ultimately, these mixes are fundamentally a result of the values of those who make public policy. This study focuses on e-learning implementation using a public-private partnership (PPP) examining how PPPs influence the success or failure of the implementation process, therefore, greater emphasis is placed on the sectoral mixes in particular public-private partnerships.

## 3.5 Public-private partnerships

### 3.5.1 Defining public-private partnerships

Brinkerhoff and Crosby (2002: 86) define PPPs as “‘cross-sectoral (public and private sector) interactions whose purpose is to achieve convergent objectives through the combined efforts of both sets of actors, but where the respective roles and responsibilities of the actors involved remain distinct’”. Similarly Van Ham and Koppenjan (2001: 598) add that these partnerships are “‘co-operation of some sort of durability between public and private actors in which they jointly develop goods and services and share risks, costs, and resources which are connected with these goods and services’”. The fundamental characteristic of PPPs rests on the establishment of reliable and formal business relationships with the private sector based on common interest and commitment in which both benefits and risks are shared by both parties, both parties are responsible for service financing, construction, design and function of public facilities and services (Ibid). Therefore, the partnership exists as a combination of financial and institutional arrangements for cooperation and joint action. The above definitions reveal the following characteristics of PPPs: *collaboration between public and private parties, joint decision making process, the contractual agreements, and risk sharing.*

### 3.5.2 Types of public-private partnerships

The concept of a public-private partnership (PPP) recognizes the existence of alternative options for providing education services besides public finance and public delivery. Public private partnerships can take a wide range of forms varying in the degree of involvement of the private entity in traditionally public infrastructure. A public private partnership is generally recorded in a contract or agreement to outline the responsibilities of each party and clearly allocate risk. The graph (**Figure 3**) below illustrates the spectrum of public private partnership agreements. Although there are many forms of PPPs, including partnerships where private organizations support the education sector through philanthropic activities and high engagement ventures, this study examines PPPs in which government contracts a service provider to supply a specified service of a defined quantity and quality for a specific period of time, concession contracts. In respect of concessions, the private party finances and operates a public facility. During the contract period the private party recovers its capital. Maintenance of the facility becomes the responsibility of the private party while government assumes regulatory role (World Bank, 1997; EU, 2003).

**Figure 3: Types of public-private partnerships**



Source: World Bank (1997)

### 3.5.3 Benefits of public-private partnerships

The main purpose of using partnerships to implement policy is to seek more ways in which policy delivery can be performed more efficiently and effectively through the adoption of private sector practices and innovation. Whatever form PPPs in education have taken, their purpose has often been to improve efficiency of public education management systems, effectiveness of teaching and learning, enhance the quality of education, and expand access to education and accountability in schools (La Roche, 2008: 8). Implementing policies using collaborative partnerships not only assists public agencies to overcome social and economic

issues that affect government's capacity to deliver services efficiently and effectively. Primarily, PPPs in education provision, especially for developing countries, are encouraged because of the fact that many governments cannot adequately afford the costs of education provision due to their economic position. In this regard, public–private partnerships (PPP) are identified as a viable means to effectively address constraints of financing, and management of education (Chijioke, 2007:95). PPPs for education have four main objectives of: increasing enrollment, improving education outcomes, reducing inequality, and reducing costs (Ibid).

Further, governments may decide to contract out services to private companies to support and strengthen its programmes implementation. Contrary to public sector service provision, the private sector is commonly believed to be more innovative and deliver more alternatives for service provision. In the education sector, PPPs are increasingly perceived as an innovative approach to provide education for all; PPPs allow the public sector to organize private funds to assist with increasing funding capacity and bring in new modern technologies (Klijn and Tiesman, 2000: 22). These and other benefits are what make many believe PPP's can help solve challenges that the traditional mode of education provision faces (Malik, 2010: 55). However, PPPs in education can only help make progress but are not a panacea to the various problems of education provision and financing. This study examines the role and impact of PPPs on access to and quality of education in secondary schools which can be assessed by investigating the challenges and success of implementation using PPPs.

#### **3.5.4 Challenges facing implementation using a PPP model**

The literature on PPPs has identified both PPPs strengths and weaknesses of PPPs. Based on their findings, authors have identified a number of factors which they regard as significant for the attainment of the objectives of any PPP agreement. Public-private partnerships are a complex governance arrangement that require various capacities in the public sector to succeed including: transparency, commitment, legal and regulatory framework and monitoring and evaluation of project. This section discusses each of these key factors based on the literature on PPPs and summarizes the authors' opinions as to why these factors are regarded as integral for the success of a PPP.

### ***(i) Transparency***

Debande (2004: 201) argues that the benefits of PPPs can only be sustained and ensure collaboration and support amongst all stakeholders if all parties are involved from the beginning of the PPP agreement through a transparent process. Transparency is closely associated with the concept of accountability. Debande (2004: 201) asserts that creating a Memorandum of Understanding between the parties also assists to ensure accountability when all information about parties' roles and responsibilities are shared amongst the relevant stakeholders. This will progressively help parties to make the best decisions; to ensure best use of resources, ensure value for money, transparency and achievement of desired results (ibid). According to Nelson (2003: 250) transparency encompasses four issues that should be upheld during the course of the PPP: fullness of disclosure, the accessibility of documents, the timeliness of information availability and the mechanisms available for recourse and influence (Nelson 2003: 250).

### ***(ii) Commitment***

This refers to commitment of various actors involved in policy implementation. Brynard (2005: 656) argues that commitment is important at all levels of policy implementation. It is a critical element, is not only necessary for government officials and other implementing agents but it is equally vital at all levels through which the policy passes and relies on for its effective implementation. Once the PPP has commenced, the public sector must remain actively involved in the programme. Maintaining active communication amongst relevant stakeholders including, employees, beneficiaries, relevant interest groups can help to speed and strengthen implementation process. Elmore (2002) suggests that implementation is affected in some critical sense by the establishment of local coalitions of individuals. In a process of implementing a project or programme, all stakeholders have to be fully committed from the beginning to the end, because if they are unwilling or unable to do so, little will happen (ibid). Therefore this means that if various actors in the policy process are either unwilling or unable to implement the policy or programme, implementation will remain ineffective.

### ***(iii) Legal and regulatory framework***

Pillay and Hearne (2009: 65) argue that the main concerns may be overcome by having a good legal and policy framework to guide the PPPs in place. According to the European



Commission (2003: 1) the development of legal and regulatory frameworks to guide the operation and management of PPPs is another fundamental aspect to the successful outcome of PPPs. The EU observe that legal and regulatory frameworks determine the procedures to be followed in the identification of partners, debt agreement limits and types of PPPs acceptable and thus facilitating smooth implementation of PPPs which includes forming Memorandum of Understanding (MOUs) to structure the PPP and hold parties accountable for their roles and responsibilities (Ibid).

#### **(iv) *Monitoring and Evaluation (M&E)***

Public sector commitment in programme life includes on-going performance monitoring of each project aspect. Bagal (2008: 25) argues that monitoring of the operations and the performance of PPPs by requisite government oversight is another backbone to the success of PPPs. According the author regular checks and mandatory submission of progress reports by management teams running PPPs may guarantee achievement of the objectives of partnerships (Bagal, 2008: 25). Baalen and de Coning (2006: 242) suggest that a log frame can be used as a programme management tool to manage the complete project cycle from design to implementation, monitoring and evaluation. The vertical side of the table clearly specifies the programme aims, objectives, outputs and outcomes of the e-learning policy to enable subsequent monitoring and evaluation of the policy implementation easier to carry out. On the horizontal side of the table aspects such as objectively verifiable indicators, main assumptions, costs, time frame and persons responsible for policy implementation make it clear on how the policy implementation will be measured, its' duration and persons and funding required for successful implementation.

### **3.6 E-Learning**

#### **3.6.1 Purpose of e-Learning**

Despite the fact that the uses of ICTs are widely accepted in institutions of learning, from primary, secondary to tertiary education there remains a lack of definitional clarity of the concept of 'e-learning'. Currently, there are multiple terms used to explain the use of these modern technologies in teaching and learning settings such as distance learning, online learning and technology assisted learning which creates conceptual uncertainty (Brown et.al, 2007:78). The many terms describing the uses of electronic technologies in educational and training settings reflect the ambiguity as to their roles and functions, and highlight the fact that the domain of e-learning has not yet been established in a particular environment (Guri-

Rosenblit and Gros, 2011: 3). Guri-Rosenblit and Gros (2011) add that the number of different terms used to describe e-learning in the literature creates confusion as to its actual and potential uses. Brown et.al (2007: 78) argue that the confusion stems from policy documents, the spelling and the way online learning and distance learning are explained as synonymous with e-learning. Often the conception of e-learning is very broad and in many cases, no explicit definition is provided in policy documentation (Brown et.al, 2006: 78).

To overcome these challenges, end users' understanding of e-learning at school level becomes an important contributor to ensuring successful implementation of e-learning (Mason and Rennie, 2006: xiv). According to Trucano (2005: 35) teachers ability to view ICTs as tools to assist them in creating 'learner centric' learning environment and use ICTs to support change and to support teaching experiences requires extensive and proper training because if teachers recognize the importance of ICTs in education they may be more encouraged to use it extensively in the classroom and convinced about its potential to improve their teaching. Trucano (2005: 35) also cautions teachers ICT use should be extended beyond information presentation because using ICTs as merely tools for information presentation is of mixed effectiveness as sometimes uses of ICTs can reinforce traditional pedagogical practices and divert focus from the content of what is being discussed or displayed to the tool being utilized. Ultimately, teachers need to view ICT as a new approach to teaching and interacting with learners and knowledge instead of a new subject matter in education in order to improve learners learning experience (Jimoyiannis and Komis, 2007). Thereafter, the impact of effective teacher training on ICT can be measured in terms of changes in attitudes on the part of teachers and of learners as well (ibid).

### **3.7 E-Learning Implementation**

#### **3.7.1 Challenges to e-learning implementation**

Challenges of e-learning implementation relate to teachers' and learners' ability to use and access ICTs for teaching and learning purposes in schools. It is a critical that the discussion acknowledge potential drawbacks and barriers to the development and implementation of e-learning. Ali and Magalhaes (2008: 41) argue that end users face the following issues include: *availability and accessibility of ICTs*, this relates to quantity, type, and reliability of computers, access arrangements and location of equipment (Tearle, 2008: 339); *system crashes, bandwidth and infrastructure upgrading; usability, technical support* and perceived difficulties in using such a system because of the fact that the user will need to master a new

set of skills (use of online tools, communicate effectively) and deal with specific procedures (such as passwords, permissions).

However, several practical issues are affected by social and cultural issues which affect teachers' and learners' access and use of ICTs in schools. Kozma (2008: 24) explains that, in order to ensure that teachers and learners in the school experience the benefits of e-learning, through the frequent access and proper use of available ICTs schools need to have adequate resources available for all to use. He warns that, lack of adequate access limits the extent to which learners' and teachers' experience the benefits of e-learning and their use of ICTs for teaching and learning (ibid).

Teacher's personal ideas and perceptions about how teaching and learning processes should take place and their level of ICT competence play a major role in how they use of ICTs in their teaching and how they motivate themselves to use ICT tools in the classroom (Jimoyiannis and Komis, 2007: 151). According to Higgins and Moseley (2001 cited in Jimoyiannis and Komis, 2007: 151) argued that the most effective teachers not only had a positive attitude towards ICT but have good ICT skills and use computers as a part of a stimulating environment for learners' inquiry and collaboration.

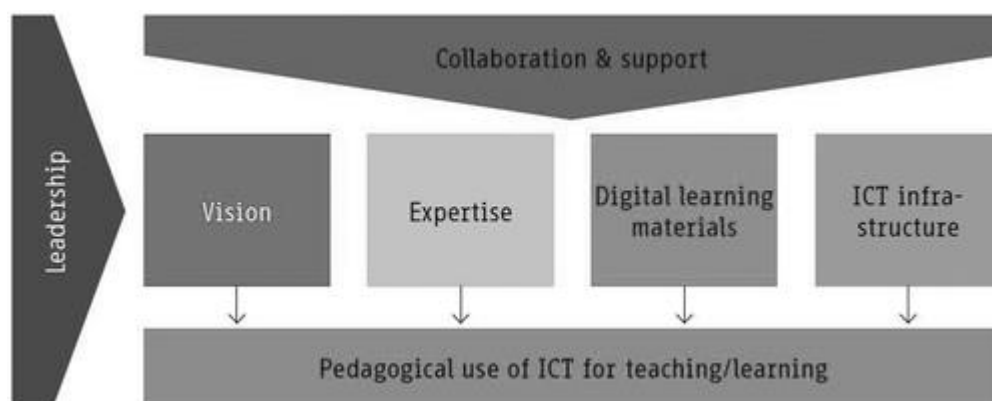
Also, teachers' beliefs about their level of competence affect their choice to integrate ICT in their teaching (Jimoyiannis and Komis, 2007: 152). A lack of adequate training and experience is considered one of the main reasons why teachers have negative attitudes toward computers and do not use technology in their teaching (ibid). Hatley and Schiller (2003:6) argue that in these cases School Principals have a duty to lead e-learning implementation in their schools and direct effective ICT development in their schools which includes seeking assistance from others to make informed decisions about e-learning implementation.

### **3.7.2 Necessary conditions for successful e-learning implementation**

The difficulty is not just about knowing what the barriers are, but what to do about the management processes that lead to a successful implementation of e-learning. In order for e-Learning Policy to be effectively implemented there is need for an enabling environment or enabling factors. According to Kennisnet (2012) the effective use of ICTs for teaching and learning will take place where, all stakeholders must have a shared **vision** about what is

required to direct educational change in the school and the appropriate means through which these needs will be delivered; and *collaboration* is encouraged with a display of active *support* of an array of stakeholders involved in the e-learning implementation process; a strong display of *leadership* and *professional expertise*; availability of *ICT infrastructure* and *digital learning material* including quality of hardware, networks and connectivity within the institution's education system. This study will be partially anchored on Four in Balance theory. The key elements are outlined in **Figure 4** below:

**Figure 4: Elements of the Four in Balance model**



Source: Adapted from (Kennisnet, 2013 cited in Tondeur et. al, 2015: 569)

#### **(i) Vision**

Albion et al. (2015: 656) argue that the common issue is that governments and donor agencies focus mainly on infrastructural investments to solve the school's needs without a well set out implementation plan or vision on how these ICTs will be used, why they want technological devices or what existing deficits the technology will address. These issues becomes a greater challenge than the actual use of technology in teaching and learning processes, despite the increased number of ICTs delivered to schools. Kelly and Rossotto (2011) concurs with Albion et.al (2015: 656), the author argues that, strategic planning needs to take place before the roll out of ICT infrastructure takes place and that planning should focus on all elements including financial, cultural and technological, as well as global and local trends affecting implementation of e-learning in the school. According to Kelly and Rossotto (2011: 37) a consolidated vision for e-learning implementation can only be achieved through stakeholder co-ordination and discussion which should include meetings for

deliberative planning about all the factors affecting the success of ICT use and access in the school in order to deal with forthcoming issues timelessly. Kelly and Rossotto (2011: 37) add that, all stakeholders should examine how ICTs may be used effectively for teaching, learning and administration and reach an agreement on how the vision will be carried out.

### ***(ii) Leadership***

It is important for teachers and schools to understand that educators work as part of a socio-cultural environment with other stakeholders; this environment either encourages or hinders teachers' use of ICTs (Somekh, 2008: 449). They need to provide leadership in ICT implementation in order to influence the success of the implementation process, leadership needs to be equally distributed in schools. Teachers and schools need to understand this ecology to be able to provide leadership in ICT implementation. Successful ICT leadership should not be assigned to an individual, but needs to be distributed (Bennett and Bennett, 2008: 11). Distributed leadership implies that leadership is the property of a group and not of a single person and that expertise is distributed among many and not among a few (Ibid).

### ***(iii) ICT infrastructure and digital learning materials***

Al Mulhim (2014: 24) argues that the availability of physical facilities such as *electricity, hardware, and ready Internet* are crucial for the implementation of ICT policy and, as such, schools must have the structural integrity to account for these requirements. Tondeur et al. (2012) explained, it is important for teachers to feel they have access to the resources required to apply the technology in the classroom. The availability of resources will influence the extent to which ICT integration into classroom activities is done in a structured and ongoing way, rather than via random or ad hoc attempts (Tondeur et al., 2012).

### ***(iv) Expertise***

Tondeur et al. (2012: 55) argue that providing teachers with practical ICT training on how to find and how to use resources plays an important role in achieving the desired ICT use for teaching and learning outcomes. Without proper and relevant training from an accredited ICT company teachers are not fully able to use technologies (ibid). It enables teachers to be more comfortable with using the technology, increase their knowledge on how to use ICTs to

improve their teaching and transfer ICT skills to learners. According to Brown (2017: 1) the most significant factor for sustaining the development of teachers' ICT skills is to ensure that teachers have regular access; without regular access it is difficult for them to increase their ICT competencies. The author argues that delivery of ICTs must be done simultaneously with ICT training and the training should not be a once-off session but on-going (ibid).

#### *(v) Collaboration and Support*

Ensuring widespread use of ICTs is expensive. To assist with the economic challenge of funding and delivering ICTs, public partnerships between the government, the private sector and educational community are encouraged to serve as an additional resource for education (Kozma, 2008: 28). Different stakeholders bring different perspectives and skills to school connectivity plans. Relevant stakeholders from inside and outside government such as elected government leaders, ICT ministries and regulatory agencies, national planning agencies, private sector (service providers) and non-governmental organizations (NGOs) should be included in school connectivity plans to enhance coordination and agreement on strategies. Beyond the governmental actors, private-sector and non-governmental organizations (NGOs) can play key roles in advancing school connectivity, therefore, their participation should also be taken into consideration when developing school connectivity plans. Below, **Figure 5** shows the relevant stakeholders who may be involved in e-learning implementation

**Figure 5: Stakeholders in school connectivity plan**



Source: Adapted from Kelly and Rossotto (2011)

### **3.8 Conclusion**

In light of the above discussion it has been evident that policy implementation is not a straight forward process, rather it takes place in an ever-changing environment. Policy implementation processes continuously create change and a new reality. Good and relevant policies can be in place but there is no guarantee that they will be successfully implemented. Studies of policy implementation process have not yet yielded a comprehensive implementation theory, however a number of approaches have emerged over time giving rise to new approaches to implementing policy such as public-private partnerships (PPP). In an ideal world choosing the appropriate means for the government to implement policy would be an easy task. If all the obstacles and opportunities of a particular approach were context-free and unknown, like other approaches, PPPs have challenges. This chapter outlined challenges of implementing PPPs. It also discussed challenges of conceptualizing e-learning, barriers to e-learning and the necessary conditions for e-learning implementation. It further discussed the relevant issues concerning the role of public-private partnerships in implementing policy from a theoretical perspective as well as enablers and challenges to e-learning implementation from a conceptual perspective. The chapter identified and defined relevant terms that inform the study, public policy, policy cycle, policy implementation, public-private partnerships and e-learning.

## CHAPER FOUR: POLICY AND LEGISLATIVE FRAMEWORK

### 4.1 Introduction

This chapter provides the legislative and policy framework for basic education and e-learning as well as public-private partnerships in South Africa. The framework of governmental obligations is outlined through a series of explicit guarantees of the right to education in international human rights treaties, national constitution, and domestic laws. The framework aims to show government's commitment to regulating PPPs and providing infrastructural as well as human resources for schools to realize the goals and mandates of the Constitution, subordinate laws and international agreements. The chapter begins with presenting the policy and legislative framework as well as the international agreements for the provisions of basic education in South Africa. Then it presents the legislative, policy framework and international agreements for e-learning and public-private partnerships. Lastly, it provides a conclusion of the discussion.

### 4.2 Basic Education

#### 4.2.1 International Agreements and Declarations

South Africa belongs to an international community that promotes the provision of the right to education for all citizens. The right to education enjoys extensive protection in international law. The primary international law instruments prioritize basic education above other levels of education by requiring of states parties to ensure that all citizens have access to quality education. The rationale is that education, if guaranteed, unlocks the enjoyment of other human rights and ultimately empowers a person to play a meaningful role in society.

According to Article 13 (2) of the International Covenant on Economic, Social and Cultural Rights (ICESCR), the four principles are to make education available, accessible, acceptable and adaptable. The “4-A's” are interrelated and essential features of education and contribute to the successful provision of the right to a basic education. The right to education implies that national education systems of States must meet minimum standards in four interdependent areas. They are as follows:

1. *Available: State must provide: a government-funded education system, adequate infrastructure and trained teachers able to provide an education;*
2. *Accessible: This requires that the State ensure that: a. education is not discriminatory, education is made accessible to all by addressing economic and b.*



*physical barriers; and positive steps are taken to include the most marginalized communities and children.*

3. Acceptable: *Ensure that the content of education is non-discriminatory, culturally appropriate, high quality teaching and learning and safe schooling environment.*
4. Adaptable: *Education must be flexible and able to respond to the different needs of children and able to respond to the changing needs of society”* (UNICEF, 2012: 12).

Article 13 (2) emphasizes the government's duty to fund schools infrastructure and ensure that teachers are adequately trained to provide the best quality education to learners. It further highlights the need to ensure that education is made accessible to all learners regardless of their social and economic classification and that barriers to this should be addressed by the government. More importantly, it notes that education provided to learners must be of high quality in response to emerging advancements in education and society.

#### **4.2.2 Basic Education in South Africa**

##### Constitution of the Republic of South Africa Act No. 108 of 1996

Education rights are contained in s29 of the Constitution. The Constitution of the Republic of South Africa (1996: 12) in s29 (1) provides that:

*“Everyone has the right— (a) to a basic education, including adult basic education; and (b) to further education, which the state, through reasonable measures, must make progressively available and accessible”* .

Section 29 enshrines the right to education and defines the positive responsibilities of the state in this respect. The section provides that the state has to make further education progressively available and accessible. Accessibility means that the state should move towards removing barriers. The right to education imposes an obligation on the state to put in place and maintain an education system, with educational programmes available in all its forms and at all levels. The state has to take steps to ensure that there are functioning educational institutions with education programmes and educators throughout its territory. Institutions and programmes should be accessible, that is, barriers to these institutions and programmes must be removed. The education system should have the object of making education available, accessible, acceptable and adaptable.

### National Education Policy Act (NEPA) 1996 (Act 27 of 1996)

The NEPA is aimed to promote and enhance teaching and learning practices in schools and promoting the advancement of an education system that is equitable and provides equal education opportunities for all. According to the Act, education policy shall be directed toward achieving objectives stipulated in Section 4 (b) and (c) of the National Education Policy Act (1996: 4). Section 4 (b), (c), (e) and (j) state that,

*“(b) the education system should contribute to the full personal development of each student, and to the moral, social, cultural, political and economic development of the nation at large; (c) achieving equitable education opportunities and the redress of past inequality in education provision; (e) providing opportunities for and encouraging life-long learning; (j) promoting a culture of respect for teaching and learning in education institutions”* (South African Government, 1996: 4-5).

### The South African Schools Act (Act 84 of 1996)

SASA is informed by the National Education Policy Act, the intention of SASA is to promote access, quality and democratic governance in the schooling system. It guarantees that all learners have the right to access to quality education without discrimination. The South African Schools Act lays out the government's duty and commitment to prioritize redress and target poverty in funding allocations to the public schooling system. The SASA (1996) mandates the government to provide all public schools with school infrastructure which includes physical classrooms, electricity and electrical connectivity. Section 12 of SASA reads as follows: *12. Provision of public schools (1) The Member of the Executive Council must provide public schools for the education of learners out of funds appropriated for this purpose by the provincial legislature.* Two important aspects are addressed in this quote namely (i) that the state must provide public schools and (ii) that these schools must be funded from funds made available to provincial departments of education by the provincial legislature.

Section 34 of SASA clearly outlines the state's obligation to fund public schools:

*“34. Responsibility of State (1) The State must fund public schools from public revenue on an equitable basis in order to ensure the proper exercise of the rights of learners to education and the redress of past inequalities in education provision”.* Section 34 refers to two important elements to this responsibility to fund public schools, namely 1. that this obligation is of such a nature that it must enable learners to exercise their individual

rights to education as described in Section 29(1) of the Constitution of (1996: 2) that it must enable the education system to effect redress of past inequities; and in terms of capacitating schools to implement educational programmes and policies the Department must take full responsibility to ensure that the elements mentioned below are addressed and provided to schools. Section 5A (2) (b) declares that,

*(b) in respect of the capacity of a school— (i) the number of teachers and the class size; (ii) quality of performance of a school; (iii) curriculum and extra-curricular choices; (iv) classroom size; and (v) utilisation of available classrooms of a school; (c) in respect of provision of learning and teaching support material, the availability of— (i) stationery and supplies; (ii) learning material; (iii) teaching material and equipment; (iv) science, technology, mathematics and life sciences apparatus; (v) electronic equipment; and (vi) school furniture and other school equipment’’ (South African Government, 1996: 11).*

### **4.3 E-learning**

#### **4.3.1 International Agreements and Declarations for e-learning**

##### World Declaration on Education for All (1990)

The *World Declaration on Education for All* is a declaration for the pursuit of a quality education of state parties. It emphasizes the need for a 21<sup>st</sup> Century approach to learning, the introduction of educational reforms that respond to the needs of a modern information society. Article 1 states that,

*“What is needed is an "expanded vision" that surpasses present resource levels, institutional structures, curricula, and conventional delivery systems while building on the best in current practices. New possibilities exist today which result from the convergence of the increase in information and the unprecedented capacity to communicate. We must seize them with creativity and a determination for increased effectiveness’’ (UNESCO, 1990: 8).*

##### Sustainable Development Goals 2015-2030

In creating a 21<sup>st</sup> Century education system, implementing e-learning as part of educational reform in South Africa to achieve social and economic development, the government is required to fulfill these targets towards 2030. The relevant Goal 4 Targets to be achieved by 2030 are as follows:

- *All children must complete free, equitable and quality secondary education leading to relevant and effective learning outcomes;*
- *Increase percentage of the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship;*
- *Construct and improve education facilities...and provide safe, inclusive and effective learning environments for all’’ (UNESCO, 2015: 1).*

#### **4.3.2 e-Learning in South Africa**

##### South African Schools Act (Act 84 of 1996)

Section 5A of the South African Schools Act, presents the Norms and Standards for basic infrastructure and capacity in public schools. Section 5A (2) (a) states that,

*(2) The norms and standards contemplated in subsection (1) must provide for, but not be limited to, the following: (a) In respect of school infrastructure, the availability of— (i) classrooms; (ii) electricity; (iii) water; (iv) sanitation; (v) a library; (vi) laboratories for science, technology, mathematics and life sciences; (vii) sport and recreational facilities; (viii) electronic connectivity at a school; and (ix) perimeter security’’ (South African Government, 1996: 9).*

According to the Section the government has the duty to ensure that all schools have electricity, electronic connectivity and security at a school which are considered essential elements for e-learning implementation in schools. These elements are considered basic infrastructure for schools, therefore, government has the responsibility to deliver these necessities in order to capacitate schools to conduct teaching and learning.

##### White Paper on e-Education 2004

The White Paper was established in 2004 as the Department of Education’s symbol of commitment to transforming teaching and learning in schools by introducing access to and use of modern information communication technologies (ICTs) to all public schools. The goal of the policy was to “every South African learner in the general and further e-education and training bands will be ICT capable (that is, use ICTs confidently and creatively to help develop the skills and knowledge they need to achieve personal goals and to be full participants in the global community) by 2013’’ (South African Government, 2004: 16). It provides a framework for the implementation of e-learning and the delivery of ICTs by the

Department of Education and its implementing partners to mostly disadvantaged rural and township schools (Department of Education, 2005: 16).

The White Paper characterizes schools that implement e-Education as institutions that have:

- Learners who utilize ICT to enhance learning;
- Qualified and competent leaders who use ICT for planning and management;
- Qualified and competent teachers who use ICT to enhance teaching and learning;
- Access to ICT resources that support the curriculum; and
- Connections to ICT infrastructure.

The White Paper on e-Education (2004: 25) outlines four broad strategic objectives to achieve the overall goal of creating e-schools:

(i) *ICT professional management for teaching and learning*

White Paper on e-education prescribes that, every teacher in General and Further Education and Training must have the knowledge, skills and support they need to integrate ICTs in teaching and learning. It prescribes the duty of the Department of Education to develop a framework to ensure that teachers have requisite competencies to use ICTs as flexible tools for teaching and learning into a pre-service and in-service training programme. Further, it states that in-service training policies and programmes are developed to enable teachers to understand and use ICTs appropriately.

(ii) *Electronic content resource development and distribution*

The curriculum in General and Further Education and Training must be supported through effective, engaging and sustained software, electronic content and online learning resources, and teachers, content developers and administrators who contribute effectively to these resources.

(iii) *Access to ICT infrastructure*

According to the policy every teacher and learner must have access to ICT infrastructure. Schools must have access to technology in order to access electronic learning materials, connect to information sources outside the classroom. It places a responsibility on the National and provincial managers and administrators to plan and mobilize funds for provincial, district and institutional resources to support hardware and equipment installation, as well as maintenance and repair in schools.

(iv) *Connectivity*

Every teacher and learner in General and Further Education and Training must have access to an educational network and the Internet. The Telecommunications Act 103 of 1996 and amended in 2001 makes provision for the development of a network for education (EduNet) that will connect all institutions to each other and to the Internet through multimedia laboratories. The Departments of Education and Communications must initiate the development of a national education network in collaboration with other relevant government departments. The education network will be designed to serve the goal of universal access for every e-school. The education network will provide high-speed access for learning, teaching and administration.

The Guidelines for Teacher Training and Professional Development in ICT 2007

The Guidelines for Teacher Training and Professional Development in ICT is one of the initiatives undertaken by the Department of Education to implement the White Paper on e-Education. The Guidelines for Teacher Training and Professional Development in ICT is a step towards guiding the development of the ICT knowledge and skills of teachers to enhance the educational experiences of learners in the implementation of the National Curriculum Statement. The guidelines are an attempt to provide direction in addressing the ICT training needs of teachers and attempts to move away from imposing a narrow vision of the appropriate use of ICT in teaching and learning. This document sets out the ICT knowledge, skills, values and attitudes needed by teachers to implement the National Curriculum Statement effectively.

National Integrated ICT Policy (2016)

The e-Education policy provides a strategic framework for national co-ordination with the Presidential National Commission on Information Society and Development, the provincial education departments, other governmental departments, business and industry, non-profit organizations, higher education institutions, general and further education and training institutions, and local communities to implement e-Education. According to the policy, government is required to engage in education policy using a “multi-faceted, multi-stakeholder and adaptable approach” to examine and solve the various information communication technologies access and use issues in South African society including

education sector (South African Government, 2016: 27). It states that (South African Government, 2016: 27)

*“Government is committed to ensuring that implementation of the ICT policy framework is a truly national programme, involving all social partners, including individuals and communities, the private and non-profit sectors, universities and other institutions... This is in line with the South African Constitutional framework which is based on participatory democracy and the NDP which calls for active citizenship to realize its goals”.*

#### **4.4 PPPs and Education**

##### **4.4.1 International Agreements and Declarations**

###### World Declaration on Education for All (1990)

The *World Declaration on Education for All* is a declaration for the pursuit of a quality education and achievement of basic learning needs of all citizens of state parties. If the basic learning needs of all are to be met through a much broader scope of action than in the past, it will be essential to mobilize existing and new financial and human resources from public, private and voluntary sectors (UNESCO, 1990: 8).

Article 7 outlines the responsibility of the government to establish partnerships in the education sector to ensure the realization of quality education for all as it states,

*“Educational officials at national, provincial and local levels have a duty to provide basic education to all citizens but the state cannot provide every financial, human and organizational needed to realize this right to basic education. Rather, partnerships at these different levels of government need to be established among Education departments, sub-sectors, recognize the role of educators and administrators and other education officials, partnerships between education and other government departments, including planning, finance, labour, communications, and other social sectors; partnerships between government and non-governmental organizations, the private sector, local communities and religious groups”* (UNESCO, 1990: 11).

Partnerships in education provision and educational development are recognised as a part of increasing capacity for government to provide basic education as per their legislative mandates and international agreements. It informs the implementation of e-learning by enabling public-private partnerships in order to deliver services and infrastructure as well as

recognizes the special role played by school teachers in the implementation of government policy. It establishes the need for government at all levels to strengthen partnerships with social and private sector actors as well as teachers to realize 21st Century educational goals and outcomes.

#### **4.4.2 Public-private partnerships (PPP) in South Africa**

Constitution of the Republic of South Africa Act No. 108 of 1996

Section 217 (1) of the Constitution of RSA (1996: 112) provides that,

*“217 (1) When an organ of state in the national, provincial or local sphere of government, or any other institution identified in national legislation, contracts for goods or services, it must do so in accordance with a system which is fair, equitable, transparent, competitive and cost-effective”.*

According to Section 217, organs of the state at the different levels of government are granted the provision to enter into procurement contracts or agreements, however, a condition is set forth. From the mandate above, the important elements of Section 217 are *“fairness, equitable, competitiveness and cost-effectiveness”*. These principles are the standards by which all partnerships and contractual agreements for service delivery in the public sector are measured. Even though, equal emphasis is placed on each principle, it is important to note that not all can be met in all cases. The meaning and application of each principle is examined as follows:

- Fairness and Equitability: The procurement process must be carried out in a fair and equitable manner. Each of the parties ought to have equal chances to participate in the process and provided with adequate information about the procedures to be followed.
- Transparency: Transparency means that the procedures to be followed remain open and maintain high level of accountability throughout the process. Information about the procurement process must be made readily available, not withheld privately. Further, the regulations and practices must be consistently applied and made accessible. This includes information on government contracts and allocation.
- Competitive and Cost-effectiveness: These principles relate to funding and cost. An organ of state is required to ensure that the procurement agreement is based on cost-effectiveness and competition while adhering to the previous principle. The procurement agreement needs to be at low cost yet gain value for money.



### Treasury Regulation 16

National Treasury's Regulation 16 provides precise and detailed instructions for PPPs (South African Government, 2004: 2). The government institutions subject to Treasury Regulation 16 include, "national and provincial government departments, constitutional institutions listed in schedule 1 to the PFMA, all national and provincial public entities listed in schedules 3A, 3B, 3C and 3D to the PFMA and any subsidiary of any such public entity" (National Treasury, 2004: 3). In terms of the management of the PPP agreement, Treasury Regulation 16 in Paragraph 16.7.1 provides that,

*"The accounting officer or accounting authority of the institution that is party to a PPP agreement is responsible for ensuring that the PPP agreement is properly implemented, managed, enforced, monitored and reported on, and must maintain such mechanisms and procedures as approved in Treasury Approval: III for – (a) measuring the outputs of the PPP agreement; (b) monitoring the implementation of the PPP agreement and performances under the PPP agreement; (c) liaising with the private party; (d) resolving disputes and differences with the private party; (e) generally overseeing the day-to-day management of the PPP agreement; and (f) reporting on the PPP agreement in the institution's annual report"* (National Treasury, 2004: 20).

### National Education Policy Act (NEPA) 1996 (Act 27 of 1996)

The Act was established to proclaim the educational legislative, policy and monitoring duties of the Minister of Education. It further specifies and formalizes the inter-governmental relations and co-operation between the national and provincial government in putting these responsibilities into action (South African Government, 1996: 4). The Act embodies the principle of co-operative and collaborative governance stated in Section 41 (h) (ii, iii, iv and v) of the South African Constitution. Section 3 (1) (p) of the National Education Policy Act mandates that:

*"(p) co-operation between the Department and – (i) other state departments; (ii) provincial education departments; (iii) local government; and (iv) non-government organisations, with a view to advancing the national education policy contemplated in this section and the Reconstruction and Development Programme"* (South African Government, 1996: 4).

### National Treasury PPP Practice Note Number 01 of 2004

The Practice Note 01 of 2004 outlines the rights and responsibilities of the private party in terms of the PPP agreement in Paragraph 6.3. Paragraph 6.3 (a) states that, in terms of the PPP agreement, “the private party is subject to exercise its rights and duties...at its own cost and risk without recourse to the Institution save as otherwise expressly provided for in this PPP Agreement; (b) both the public and private actors are to co-operate while exercising their respective roles and duties” (National Treasury, 2004: 46). E-learning programmes require immense funds to start and on-going funds to maintain the programme in order to realize a large-scale impact over time. The ongoing costs of providing access to technology, including teacher development (capacity and skills building), pedagogical and technical support, digital content and telecommunication charges, as well as maintenance, upgrades and repairs are enormous.

Under Paragraph 31.1 the responsibility of the private party is to ensure that,

- Provides on-going maintenance, keeps facilities in a condition that meets output specifications throughout the project term
- Determine the nature, frequency and duration of any maintenance required
- Prepare a programme for the planned maintenance
- Ensure that any and all maintenance that it undertakes does not interfere with the operations of the Institution (National Treasury, 2004: 119).

Furthermore, Paragraph 35.5 prescribes the general duties of the private actor in regards to delivering project assets such as computers and/or tablets, projectors and other hardware and software required for implementation of e-learning,

*“The Private Party shall at its own cost and risk, provide, deliver, install, commission, manage, maintain, repair, renew and replace (as the case may be) the Project Assets (or part thereof) at such times and in such manner: (a) as to enable it to meet the [output specifications] for the Project”.*

#### **4.4 Conclusion**

This chapter discussed the legislative and policy framework for basic education and e-learning as well as public-private partnerships in South Africa. The chapter presented the international agreements for the provisions of basic education, e-learning and PPPs in SA. It focused on the South African constitution and its subordinate legislation and policy

frameworks that directly and indirectly inform e-learning and public-private partnerships. It discussed the rights and duties of the public and private parties in terms of the PPP Agreement regulations mandated by the National Treasury. The legislative and policy frameworks illustrate the government's commitment to regulating PPPs and providing infrastructural as well as human resources for schools to realize the goals and mandates of the Constitution, subordinate laws and international agreements for improved education provision in South Africa.

## **CHAPTER FIVE: FINDINGS AND ANALYSIS**

### **5.1 Introduction**

This chapter presents the findings and analysis from the semi-structured interviews and focus groups conducted during the study. The chapter critically explores the successes and challenges of e-learning implementation at KwaPata Secondary School. Data was collected during semi-structured interviews with three participants as well as two focus groups involving five participants in each group. Those interviewed included the DoE ICT Director, e-Learning Project Manager from Dimension Data, the School Principal. This sample of thirteen draws participants from public servants and a private sector project manager all involved in different capacities at different levels and sectors from the KZN Department of Education, Dimension Data and KwaPata Secondary School working to ensure successful implementation of e-learning at the school. The responses are based on the e-learning implementation as well as public-private partnership experiences of the participants. The five respondents in each focus group have been coded as G\_1- the learners and G\_2- the teachers, and R\_1- the e-Learning Operations Manager, R\_2- Education Director ICT Director and R\_3- the School Principal.

The following questions guided the investigation:

- What are teachers' and learners' understanding of e-learning at KwaPata Secondary School?
- What ICT facilities and resources are available at KwaPata Secondary to implement e-learning?
- What are teachers' experiences of using ICTs in their teaching at KwaPata Secondary School?
- What are learners' experiences of accessing ICTs at KwaPata Secondary School?
- What are the challenges or opportunities encountered in implementing e-learning using a PPP model at KwaPata Secondary School?

Three broad themes and five sub themes were identified from the respondents'. These include the (1) Purpose of e-Learning, (2) E-learning implementation, sub themes- (ii) challenges affecting use and access to ICTs, (iii) necessary conditions for ICT for pedagogical use in schools, and (3) Implementing e-learning using PPP, (iv) delivery of ICT services and

resources, (v) factors affecting the success of PPP success. These themes and sub themes are discussed in terms of the factors facilitating and hindering successful implementation of e-learning at KwaPata Secondary School.

## **5.2 The Purpose and Uses of e-Learning**

This section discusses issues related to the understanding of the purpose of e-learning by teachers and learners, the Dimension Data Manager, the ICT Director and the School principal. It reflects on how the respondents understanding of e-learning impacts on their use of e-learning at KwaPata Secondary School. Moreover, it also reflects on the implications of the implementers' understanding of e-learning in fulfilling the policy and their mandate to ensure effective e-learning implementation. The section answers the following research question: what are teachers and learners understanding of e-learning at KwaPata Secondary School?

Guri-Rosenblit and Gros (2011: 3) argue that the many terms describing the uses of electronic technologies in educational and training settings result in ambiguity as to their use and purpose during implementation. The Department of Education ICT Director described e-learning as:

*“E-learning is a new phenomenon in South Africa and people have different understanding of e-learning of what it is all about. That is why as the Department of Education nationally we are working on moving from the term ‘e-learning’ because it encompasses everything, for example PDF, online learning, it's a very broad field therefore we find it very difficult to find companies that fully understand what is the role of education and what e-learning should be doing. That's why I can say that for now, it's a very difficult field. But going forward, I'm sure that as many more people have the knowledge and understanding of what is and the business of education because for me taking a book and turning it into a PDF, a soft copy is not e-learning. It's having computer skills” (R\_2).*

The service provider held the following view of e-learning and its use:

*“E-Learning is the way forward in terms of teaching and learning because it's easier for teachers to catch with the syllabus if they use technology to present notes rather than write notes on the chalkboard for 30mins they expect learners to learn*

*all of that material. Technology helps speed up the teaching and learning process and it's easier to use technology rather than manual technology” (R\_1).*

It can be inferred from the ICT Director’s response, that there is a lack of definitional clarity of e-learning in the South African basic education system which affects how e-learning is used and the purpose it serves. According to the government official this is a result of the multiple understandings of the term by different people at different levels of the implementation process. There seems to be an understanding that the current definition of e-learning as it stands in the policy documents is too broad to be understood effectively for e-learning implementation. The concern that e-learning is simply understood as the use of ICTs as tools for information presentation expressed by the government official seems to be evident in the service providers understanding of e-learning as well as teachers use at school level.

Two out of five teachers expressed that they did not know much about e-learning. The respondents stated that:

*“I didn’t even know what the use of e-learning was or what it is really....not everyone was trained” (G\_2).*

*“I see others using it but I prefer to just print pages for learners and use normal way of teaching” (G\_2).*

The following responses reflect how e-learning is conceived and used in the school by teachers. Their responses included:

One of the teachers described e-learning as:

*“E-learning is about introducing and using new technology to teach in the classroom...It has to do with introducing learners to new ways of learning (G\_2).*

Contrary to this, two out of five learners explained their experience of teachers’ use of technology for teaching and learning as:

*“Teachers use projectors and computers to show us notes” (G\_1).*

*“For our class, teachers use a photocopy machine to print handouts for us now” (G\_1).*

According to the teachers' responses to the challenges in using the technologies, one of the teachers responded that:

*"What I can say is that, the way they approach us was not right. They did not make it compulsory for us to be trained (G\_2).*

*"That training was not compulsory though not all of use went for the training. They said if you don't want to come, you don't have to" (G\_2).*

Two issues for analysis arise from these findings: some of the teachers have an unclear understanding of e-learning and its benefit. The apparent differences in teachers' understanding (or lack thereof) of e-learning as evident from their responses imply that, there is a lack of uniform understanding of e-learning because only some teachers received ICT training. Kozma (2008: 28) argues that there is an undeniable connection between teachers' participation in adequate training and their appreciation and understanding of e-learning, teachers who have a better understanding are more likely to integrate ICTs in their teaching and have a better understanding of the role of ICTs for teaching and learning. Secondly, there seems to be a limited use of ICTs in the school to information presentation for both teaching and learning. It appears that this is also a result of lack of adequate training as some teachers did not attend the training sessions. As Trusciano (2005: 35) warns, e-learning in the school without proper training reinforces traditional pedagogical practices and diverts from the purpose of creating a more 'learner centric' environment.

This section revealed that there is limited understanding of the purpose and use of electronic technologies at KwaPata Secondary School which is reflected in the teachers limited use of ICTs for information presentation which in turn diverts from the role of e-learning which is to create a learner-focused learning environment. The lack of understanding of e-learning is a result of the fact that not all teachers participated in the ICT training, the training was not conducted on a compulsory basis due to a lack of time and space to train all teachers. As a result some teachers are more conscious of the benefit and use of ICTs for teaching and learning, while others are not. It seems that some educators have an understanding of the rationale of e-learning to "*move away from traditional learning practices*". But learners' experience of e-learning reveals that ICTs are used to reinforce traditional pedagogical practices which do not lead to achievement of the main goal of creating a learner-centric learning environment.

## 5.3 E-learning Implementation

### 5.3.1 Challenges hindering implementation of e-learning

This study has so far identified that KwaPata Secondary School teachers and learners have a limited understanding of the role and use of e-learning in the school due to inadequate ICT skills training. This section examines the challenges affecting teachers and learners ability to access to and use ICTs for teaching and learning purposes at KwaPata Secondary School. It achieves this by analyzing teachers and learners subjective experiences of e-learning in the school. The section answers the following research questions: what are teachers' experiences of the implementing e-learning in their teaching at KwaPata Secondary School? What are learners' experiences of using e-learning at KwaPata Secondary School? It reveals the technical and cultural challenges affecting e-learning implementation at KwaPata Secondary School.

#### *(i) Accessibility and Availability of ICTs*

Respondents were asked about the issues the school has identified from the implementation of e-learning at KwaPata Secondary School. They raised issues about accessibility and availability of ICTs in the school:

The School Principal stated:

*"We have issues. First of all we have an issue of a lack of adequate resources of the number of ICT equipment, classroom space for e-learning to take place. Again, it takes time for the learners (some take 5mins) to move from their classroom to that e-learning classroom which takes away time from teaching and learning time" (R\_3).*

According to four out of five teachers not all the educators have equal access to e-learning material to implement e-learning. Their responses included the following:

*"There aren't enough resources for all of us to use" (G\_2).*

*"It is only for accounting, maths and science subjects because these are important subjects there is just not enough for all subjects" (G\_2).*

*"That classroom has to be booked so we can't just go. We use the smart board, projector only in that classroom" (G\_2).*

*"I don't teach those subjects so I don't use the smartboard and projector" (G\_2).*



Two out of five learners expressed that, limiting access to and use of ICTs to certain subjects affected their experience of e-learning:

*“Only certain subjects go to the e-learning room, all learners should go”*  
(G\_1).

*“We don’t have computers or tablets for us to use”* (G\_1).

*“I don’t know how to use a computer, the school should also give us computers so we can learn”* (G\_1).

*“We need a computer lab for all of us”* (G\_1).

The responses reveal that e-learning implementation in the school faces challenge of lack of available ICT resources for teachers and learners to use, as a result access to ICTs is limited to some subject areas. Learners reveal that, only teachers have physical access to computers in the school which explains their lack of ICT competence. Kozma (2008: 24) cautions that teachers and learners in the school experience the benefits of e-learning, through the frequent access and proper use of available ICTs, therefore schools need to have adequate resources available for all to use. He further warns that, lack of adequate access limits the extent to which learners’ and teachers’ experience the benefits of e-learning and their use of ICTs for teaching and learning (ibid).

#### **(ii) Usability**

When asked about their use of ICTs for teaching purposes. One of the teachers expressed that she had a positive experience of using the technology:

*“Teaching is way faster for me. It is a good alternative. It has allowed us to enhance teaching and learning for us and the learners”* (G\_2).

Two teachers expressed the same sentiments:

*“When I use the projector it is much quicker to teach than using chalk and board. I just come with my USB and install the content and start. Subjects like accounting and maths have a lot of tables so, I don’t have to draw the tables anymore”* (G\_2).

*“It is more convenient for us as teachers and less time consuming to use these technologies. Diagrams take time to draw...like my colleague has explained, there is no need to write on the board...you just plug in and install the content”* (G\_2).

Jimoyiannis and Komis (2007: 151) explain that, teachers' level of ICT competence plays a major role in how they use of ICTs in their teaching and how they motivate themselves to use ICT tools in the classroom. Teachers who have increased their use of ICTs for teaching purposes are motivated by their improved ICT skills as teachers' beliefs about their level of competence affect their choice to integrate ICT in their teaching, the most effective teachers not only have a positive attitude towards ICT but have good ICT skills and use computers as a part of a stimulating environment for learners' inquiry and collaboration. One of the teachers confirmed that, increased use of the technology has played a significant role in improving ICT competence and motivation to teacher's integration of technology in teaching and learning. The teacher stated:

*“At first, we didn't adapt to using to it. But now, we are getting know how to use it. To make an example, in Maths...we have Mr Mbuli and a few other teachers who use it full time, there is a big difference in his skills compared to when we were starting to use it...you could see that others were confused because they were not used to it. Now, there is a big difference” (G\_2).*

**(ii) Bandwidth, infrastructure upgrading and System crashes**

The School Principal also stated that e-learning implementation is affected by lack of maintenance and late repairs of installed hardware and software:

*“I requested for the governing body to purchase some of the items the teachers need to use. Sometimes, the ICT equipment needs to be repaired and updated to latest software. So we need help with those issues as well. In fact, we had to buy a new dvd recorder because the learners damaged it and stole some of the dvds disks. For, now we are responsible for restoring and ensuring safety” (R\_3).*

The Project Manager expressed their responsibility as the service provider in respect to upgrading ICT infrastructure in the school as:

*“Our partnership is a lifetime marriage, we will upgrade the technology as long the schools make sure the machines are in the right condition” (R\_1).*

*“We encourage them to use the machines, if the machine breaks or one of the equipment's have been stolen then we come back and install it or replace it or repair. But if it's stolen then the school needs to buy it. Since, technology has a lifespan about three years so after three years we come back to check if the*

*machines are still functioning properly if not. So our management is to maintain the system as long as we have the partnership with them, they don't have to call any computer guru to fix the machine, if it is faulty they can call us and we will come to fix it, replace or repair"* (R\_1).

However, the Project Manager further expressed the following concerns in exercising their role:

*"We have a challenge of not being able to go to schools timelessly, we are working with a lot of other schools so sometimes schools receive assistance later than sooner...most of these schools are very far from where we are"* (R\_1).

The Project Manager explained that the company is unable to be proactive in responding to reports from the school due to the following reasons:

*"From our side, I can say that we can improve on quickly responding to issues of broken hardware, replacing and maintaining the systems we installed. One of the key issues is that we are working with a lot of other schools and the school is geographically far from where we are located which makes things difficult but we do respond"* (R\_1).

The above responses reveal that the geographical location of the school, limited time and capacity affect the service providers' ability to respond to issues related to functionality of available hardware and software which slows down e-learning implementation in the school. However, School Principal's responses reveal that the appreciation of e-learning at school management level has led to the SGB taking up responsibility of Dimension Data. According to Hatley and Schiller (2003:6) this not an unusual act as School Principals have a duty to lead e-learning implementation at school level and direct effective ICT development in their schools, in fact it is reasonable for a Principal to seek assistance from others to make informed decisions about e-learning implementation.

#### ***(iv) Technical support***

Despite issues the service provider faces in dealing with upgrading and repairing resources, the Project Manager indicated that teachers' actions whether subconscious or conscious had an effect on their own experience of e-learning:

*“But a small challenge is that the teachers forget the passwords, their names and surname then we would get a call that the password is not working, they forgot it believe it or not. So we changed it to a universal password and username which is teacher-teacher” (R\_1).*

The Project Manager further explained how the lack of appreciation of the technology and lack of sufficient resources has played a role in some teachers not using the technology. The responses include:

*When we investigate the matter, we found that teachers were unplugging the server to plug in kettles. So we decided to upload the content on the trolley itself. But that step helped us so that they don't have an ineffective system but also it was a step back from outside because we wanted to network all the trolleys but it would have been better if they had infrastructure, they would tap in and we would install everything and connect all schools” (R\_1).*

It can be inferred that even though the service provider faces challenges to provide efficient ICT services to ensure that successful implementation of e-learning, teachers' lack of appreciation of ICTs affects the service providers' attempts to deal with technical issues affecting implementation. Jimoyiannis and Komis (2007) explain that, often teachers' lack of appreciation is a result of a lack of adequate training and experience, inadequate training is considered one of the main reasons why teachers have negative attitudes toward computers and do not use technology in their teaching (ibid). The School Principal confirms this:

In this section, it appears that the main challenge that affects teachers' and learners' ability to gain access to and use ICT for teaching and learning purposes is the lack of availability of adequate ICT resources and infrastructure for e-learning in the school. According to the responses, this has led to a limited implementation of e-learning in the school to Maths, Accounting and Science subjects which creates a barrier to other teachers who want to use technology in their teaching and learners' ability to access technology for learning purposes. Only certain subject teachers and learners have positive experiences because other subjects do not have physical access (e-learning takes place in one room) due to a lack of resources and limited space for e-learning. Implementation suffers further from service provider's inability to exercise its responsibility to upgrade, repair and replace ICT hardware and software which has been taken up by the SGB because the school is at a

considerable distance from the service provider so it takes a long time for them to respond to these issues.

However, it seems teachers' personal ideas and perceptions about how teaching and learning processes should take place and their level of ICT competence play a major role in how they use of ICTs in their teaching and how they motivate themselves to use ICT tools in the classroom (Jimoyiannis and Komis, 2007: 151). The most effective teachers are those who had a positive attitude towards ICTs but also have good ICT skills and use computers as a part of a stimulating environment for learners' inquiry and collaboration. Also, teachers' beliefs about their level of competence affect their choice to integrate ICT in their teaching. A lack of adequate training and experience is considered one of the main reasons why teachers have negative attitudes toward computers and do not use technology in their teaching.

### **5.3.2 Necessary conditions for successful e-learning implementation**

This section examines the existence of conditions that facilitate successful e-learning at KwaPata Secondary School. According to Kennisnet (2012 cited in Tondeur et. al, 2015: 569) the effective access to and use of ICTs for teaching and learning will take place where all stakeholders have a shared *vision* on what is required to direct educational change in the school and the appropriate means through which these needs will be delivered; and *collaboration* is encouraged with a display of active *support* of an array of stakeholders involved in the e-learning implementation process; a strong display of *leadership* and *professional expertise*; availability of adequate *ICT infrastructure* and *digital learning material* including quality of hardware; networks and connectivity within the institution's education system. This section answers the following research question: what opportunities are encountered in implementing e-learning using a PPP model?

#### **(i) Vision**

According to Albion (2015: 656) all stakeholders need to have a shared vision on what is required to direct educational change at school level and the appropriate means through which these needs will be delivered and used. According to (Evoh, 2007: 94) the involvement of all stakeholders in the preparation and execution of a school vision is a catalyst in the adoption of ICT.

The Dimension Data manager explained the process of stakeholder involvement stating that,

*“We go to the Districts and have meetings with them and start a relationship with the District office. We specify the area we want to go to then we record the District office and District Director, stakeholders including circuit manager and e-learning team, the schools SMT, SGB, even ward councillors because we need buy in from the whole community involved in the school” (R\_1).*

Kelly and Rossotto (2012: 37) assert that, a shared vision for e-learning implementation can only be achieved through stakeholder co-ordination and discussion which should include meetings for deliberative planning about all the factors affecting success of ICT use and access in the school in order to deal with forthcoming issues timelessly. The Project Manager expressed concern in relation to the progress of stakeholder involvement and engagement to develop of a shared vision for e-learning:

*“To be honest, we only had a few meeting with the Department of Education because we had to go to new schools and old schools. The issue it's difficult to get District Directors to have a meeting with them. So we would have that stakeholder meeting once off in an effective area, but in some cases they meetings are not effective so we end up working on a operational level and at management level we can enforce what we need to” (R\_1).*

Voogt et.al (2013: 5) assert that, in order to assist teachers and schools develop towards integrated technology use in schools for teaching and learning purposes, all stakeholders need to be supportive and involved in the implementation of e-learning because teachers do not function in isolation but as part of a larger socio-cultural environment. The Project Manager said:

*“The first thing is that you need buy in from all stakeholders, from management to the schools to the educators because schools experience challenges that do not involve the sponsor, like politics of schools and those type of dynamics. So those issues as a sponsor you are not involved” (R\_1).*

Respondent 2 further stated:

*“Most importantly, if they can get trained in computer literacy and get buy in from all stakeholders and then the District Department of Education must be hands on, on operations and assist schools that would make a huge difference*

*because you can't force them to be committed and use the ICTs. If they don't, they are failing the learners” (R\_1).*

The School Principal expressed how the school attempts to deal with forthcoming issues affecting learners and teachers access and use of ICTs:

*“I assist the teachers by talking with the school's governing body about buying some articles related to the project, disks...dvd dis disks. I requested for the governing body to purchase some of the items the teachers need to use. Sometimes, the ICT equipment needs to be repaired and updated to latest software. So we need help with those issues as well. In fact, we had to buy a new dvd recorder because the learners damaged it and stole some of the dvds disks. For, now we are responsible for restoring and ensuring safety...we are not at the stage of employing anyone to safeguard the equipment. So, as the principal by virtue I am responsible for safety and maintenance” (R\_3).*

It appears that, from the beginning of the e-learning implementation process there was a lack of stakeholder involvement for the development and execution of a shared vision for e-learning at KwaPata Secondary School. From the side of the service provider attempts were made to identify and involve all stakeholders to be involved. The challenge seems to be a result of lack of coordination amongst the stakeholders despite these attempts. Even though there is a lack of overall stakeholder involvement at institutional level, from the Principal's response it can be taken that the school governing body is attempting to assist learners and teachers to access ICTs at school level. But the concern remains that the school in some respects has taken up the role and responsibility of the delivering ICTs which should be shared amongst the relevant stakeholders to ensure successful implementation.

#### ***(ii) ICT infrastructure and digital learning material***

One of the practical factors often mentioned first in discussions of successful e-learning programme implementation is access to and use of necessary resources including hardware, software, and learning materials. Al Mulhim (2014: 55) argues that the availability of physical facilities such as electricity, hardware, and ready Internet are crucial for the implementation of ICT policy and, as such, schools must have the structural integrity to account for these requirements.

When asked about the importance of having resources available in the school for e-learning implementation in the school the Principal stated that,

*“The availability of resources plays a role in ensuring success of e-learning but to a limited extent. So, they are doing it but we are a big school with limited space and time. So, these factors have affected the pace and effectiveness of the implementation of the whole project, it is not where we want it to be. But we are gradually getting there, for all teachers...but mostly for the scarce skills subjects (life sciences, physical sciences, maths and accounting for them to be able to use it” (R\_3).*

According to the service provider the following ICT infrastructure and digital learning materials were provided to the school for teaching and learning use:

*“In the trolley, learning content is uploaded into the trolley system so that the teacher can use the trolley. Inside it video material and notes are installed through white books, there is simulation content which assists in terms of creating virtual labs because most schools in disadvantaged do not have physical labs. So, the assimilations can do experimentations and then show the results to learners without using chemicals. So, the teacher takes the trolley from the storeroom to the classroom, then we installed pull down screens for projection” (R\_1).*

One of the educators raised the point that an important challenge that acts as a barrier to their use of ICTs for teaching purposes is:

*“We don’t electricity in all classrooms. So, only the classrooms that have electricity can be used for e-learning” (G\_2).*

Another teacher added this:

*“We only have one classroom where we go to conduct e-learning for the whole school. These resources they are talking about are used in one centre...so you can only use it for one class. So we end up having to book to use for a certain period of time” (G\_2).*

Learners expressed concern that access to technology was limited to teachers:

*“We don’t have computers or tablets for us to use” (G\_1).*



Another learner added:

*“Only the teachers use projectors and computers and only teachers have laptops...People from Dambuza Youth Centre came to let us know that we can come to do our school projects and use the computers there and we wouldn’t pay...but even though we can go to the Youth Centre, most of the time its full and we have to wait for a long time ” (G\_1).*

One of the learners expressed that their experience of e-learning was limited to:

*“They use a photocopy machine to print handouts for us now” (G\_1).*

It appears that teachers negative experiences of using ICTs to conduct teaching and learning is affected by the lack of adequate resources and inadequate time to develop and maintain e-learning in the classroom. The lack of adequate resources and facilities has influenced the extent to which ICT integration into classroom activities are done, instead of being performed in a structured and ongoing way, teachers are only able to use technology for e-learning in a random or an ad hoc manner. Tondeur et al. (2012) explains that it is important for teachers to feel they have access to the resources required to apply the technology in the classroom. The availability of resources will influence the extent to which ICT integration into classroom activities is done in a structured and ongoing way, rather than via random or ad hoc attempts (Tondeur et al., 2012: 23).

### ***(iii) Leadership***

Somekh (2008: 449) argues that, it is important for teachers and schools to understand that educators work as part of a socio-cultural environment with other stakeholders; this environment either encourages or hinders teachers’ use of ICTs. Schools need to provide leadership in ICT implementation in order to influence the success of the implementation process, leadership needs to be equally distributed in schools (Bennett and Bennett, 2008: 11). The Manager revealed that a key issue amongst all teachers is misplaced leadership. He stated that technophobia is the main reason for the misplaced lack of leadership:

*“The biggest challenge in schools, teachers have technophobia most of them are older educators. We call them, those who were born before technology. So, you train them but you find that they are not used to using the equipment and another challenge is that those who are senior, the HODs then the younger teachers want to use them but*

*the HODs feel embarrassed that they cannot use the system and can't lead the team. But as much as we can, we do try to train them"* (R\_1).

According to Bennett and Bennett (2008) successful ICT leadership should not be assigned to an individual, but needs to be distributed amongst educators. Distributed leadership implies that leadership is the property of a group and not of a single person and that expertise is distributed among many and not among a few (ibid). The Manager continued to reveal that:

*"Even the principal, is scared of the technology they rather direct us to one teacher who they allow to be in charge of e-learning in the school then that will be it. At KwaPata, they have a designated teacher who the Principal assigns the role. I don't deal with him much, he is not hands on. In the schools they don't report or follow up on our interactions or the trolleys we installed"* (R\_1).

According to one of the teachers, the lack of demonstrated leadership amongst educators is a result of a lack of understanding on how to use the technology, the teacher explained the issue as:

*"At first, we didn't adapt to using to it. But now, we are getting know how to use it. To make an example, in Maths...we have Mr Mbuli who uses it full time, there is a big difference in his skills compared to when we were starting to use it...you could see that others were confused because they were not used to it.*

Another teacher added that:

*Now, there is a big difference. Some teachers (a small number) are now able to help others to better use and understand how to use it."* (G\_2).

From the teachers' responses it appears that there is some display of leadership and ownership of technology use for teaching purposes. The display of leadership can be explained by their increasing appreciation and understanding of ICTs. However, the display of leadership remains limited to a small group of educators who use the technology on a regular basis while teachers remain behind. According to the service provider, the reason for the majority of teachers' lack of use is a result of technophobia which increases concentrated leadership as opposed to a culture of distributed leadership in the school.

*(iv) Professional expertise*

Tondeur et al. (2012: 55) argues that teachers need to be adequately trained in order to have the capacity to implement e-learning in their teaching. Adequate training is a critical element to achieving successful implementation of e-learning. Providing teachers with practical ICT training on how to find and how to use resources plays an important role in achieving the desired ICT use for teaching and learning outcomes (Ibid). Without proper and relevant training from an accredited ICT company teachers are not fully able to use technologies (Kozma, 2008). It enables teachers to be more comfortable with using the technology, increase their knowledge on how to use ICTs to improve their teaching and transfer ICT skills to learners.

When asked about the training the service provider administers to educator in the school, the Project Manager stated that,

*“When we start the relationship with the school, we come to install the trolley, we train them, and we give them 2 hours training. But, it’s about how to use the system, how to use passwords, to create usernames and passwords. We train them once a year, we do refresher training once a year but the system is user-friendly. You just need to put in your username and password then it shows you what to do. Also, we leave them with training manuals, maybe if there is something they forgot afterwards” (R\_1).*

The Respondent 1 further stated that,

*“We provide training to educators on how to use the system. So we train educators, all educators...there is a dvd player in the trolley so that we don’t discriminate against teachers who are teaching other learning areas, so even if you teach Geography you can still use the system. If they also have additional educational materials that they can still use the trolley” (R\_1).*

According to Brown (2007: 1) the most significant factor for sustaining the development of teachers ICT skills is to ensure that teachers have regular access to skills training and ICTs in the school. Without regular access it is difficult for them to increase their ICT competencies. The author argues that delivery of ICTs must be done simultaneously with ICT training and the training should not a once-off session but on-going (ibid).

Contrary to the Project Managers statement, the Principal revealed that not all educators received training:

*“Given the fact that the number of educators we have, they can’t train all of us at a faster pace” (R\_3).*

When asked about their experiences of the training teachers stated the following

*“Not everyone was trained...” (G\_2).*

*“What I can say is that, the way they approach us was not right. They did not make it compulsory for us to be trained. That training was not compulsory though not all of use went for the training. They said if you don’t want to come, you don’t have to” (G\_2).*

Furthermore, another teacher explained:

*“There is not enough time and space to train all of us so I understand why they couldn’t train all of us. Also, the training was once off and brief” (G\_2).*

From teachers’ responses, it appears that only some teachers received ICT skills training because the training was conducted on a voluntary basis instead of ensuring that all teachers are provided training to be able to use the technology. Also, the training was a once-off experience so teachers did not get another opportunity to receive training and develop their skills. It is revealed that, not all teachers could be trained because there is lack of time and space for training. Kozma (2008) argues that teacher training is an important determinant for teachers’ use of ICTs in their teaching, providing once-off training does not provide teachers with adequate skills to enable them to regularly use ICTs with confidence.

#### ***(v) Collaboration and Support***

Ensuring widespread use of ICTs is expensive. To assist with the economic challenge of funding and delivering ICTs, public partnerships between the government, the private sector and educational community are encouraged, to serve as an additional resource for education (Kozma, 2008). Involvement of relevant stakeholders from inside and outside government such as elected government leaders, ICT ministries and regulatory agencies, national planning agencies, private sector (service providers) and non-governmental organizations (NGOs) should be included in school connectivity plans to enhance safety and security,

increase ownership of the programme and has the potential to bring in more capital (funds and expertise) into the programme (Ibid).

- Funding and Expertise

The School Principal revealed that the school is seeking and receiving assistance from other actors outside of the partnership with Dimension Data due to insufficient ICT resources in the school:

*We recently received a donation from the Motsepe Trust. We truly want to expand the e-learning programme in order to reach more educators and learners” (R\_3).*

When the Department of Education was asked about the kind of necessary support provided to teachers in implementing e-learning the ICT Director stated that,

*For now what's happening in the Districts is that, there specialists being employed who we call e-learning specialists those people who help the teachers in terms of running workshops and supporting the schools to make sure that they are implementing e-learning. We also have IT officers, their job is to make sure that their gadgets are repaired, free of charge because they are employed by the department.*

When asked what could improve their experiences with e-learning in the school, three of the teachers identified the need for more funding from other sponsors:

*“If we can get more sponsors, people who can sponsor the school besides assistance from the government I think the e-learning process will be successful (G\_2).*

*“It does not have to be finances but it could be computers. Like Vodacom they promised to bring computers, then never come back (G\_2).*

*“We have a lot of learners, we don't have a lab. If we could have a lab, everything will be fine” (G\_2).*

- Safety and Security

The Principal identified security as a key issue, which he suggests other stakeholders at the school can help with:

*“Third, is the issue of security. The box we use to store the computers and projector, we have to move it up and down to safely store it. So, we need increased*

*security measures to ensure safety of the equipment. It is a great challenge that all stakeholders need to work on going forward including the community” (R\_3).*

The service provider echoed the same sentiments as the Principal in terms of the need for collaboration and support to ensure safety of the technology and inclusion of other companies to assist with delivering more ICT resources to the school:

*“But what I think the issue is with companies is that, they are competing in schools but school work together as a team, and see how they can assist school. Even if we are coming with different skills but exercising them in a way that they will complement each other. One company delivering ICTs in one school is not enough. Right now, in some schools learners do not have computers for e-learning. But also, security is a big problem but if we can work together something can be done” (R\_1).*

The Project Manager expressed that they (as Dimension Data) have tried to set up meetings for stakeholder involvement but have been successful but recognise the importance of this:

*“From the beginning, we go to the Districts and have meetings with them and start a relationship with the District office. We specify the area we want to go to then we record the District office and District Director, stakeholders including circuit manager and e-learning team, the school's SMT, SGB, even ward councillors because we need buy in from the whole community involved in the school. Going forward, we have been unsuccessful in holding meetings with the stakeholders who were present at launch of the programme” (R\_1).*

This section analyzed some of the conditions necessary for successful e-learning implementation. It appears that, from the beginning of the e-learning implementation process there was a lack of stakeholder involvement for the development and execution of a shared vision for e-learning at KwaPata Secondary School. From the side of the service provider it seems as though attempts were made to identify and involve all stakeholders. The challenge seems to be a result of lack of coordination amongst the stakeholders despite these attempts. It appears that there is a great need and opportunities for greater stakeholder involvement and collaboration to increase prospects for funding, expertise and safety and security. However, collaboration and support has remained minimal at this point due to a lack of co-operation and communication amongst stakeholders.

In terms of *professional expertise*, it appears that only some teachers training because the training was conducted on voluntary basis instead of ensuring that all teachers are trained to be able to use the technology. The training was a once-off experience so teachers did not get another opportunity to receive training and develop their skills. It was revealed that, not all teachers could be trained because there was a lack of time and space to train all teachers. With regards to leadership, there is some display of leadership and ownership of use of technologies for teaching purposes. It appears that the display of leadership can be explained by the increasing appreciation and understanding of ICTs by those teachers who regularly implement e-learning in their teaching and assist other teachers to use it who did not receive training. However, the display of leadership remains limited amongst to a small group of educators who use the technology on a regular basis.

## **5.4 Implementation e-learning using PPP model**

### **5.4.1 Delivery of ICT facilities and services**

This section examines the availability of ICT facilities and services delivered to KwaPata Secondary School for the implementation of e-learning. According to Colebatch (2002: 52) effective implementation requires sufficient *funding, support and capacity* to implement development programmes. He further states that where government lacks sufficient funding, support and capacity, it needs to establish public-private partnerships to ensure adequate funding, support and capacity to achieve programme aims and objectives. La Roche (2008: 8) argues that, the purpose of PPPs in e-learning initiatives is to improve efficiency of public education management systems, effectiveness of teaching and learning, enhance the quality of education, and expand access to education and accountability in schools.

#### **(i) Funding**

When the ICT Director asked about the role and responsibilities of the Department of Education in the e-learning implementation process he stated that,

*“The role of the Department of Education is to make sure that schools are receiving the infrastructure. One, what do we mean by infrastructure, in terms of those are the gadgets such as computers, tablets and all other technology. Also, to make sure that the schools are equipped with the infrastructure such as broadband, networking etc.” (R\_2).*

*“The realisation is that government cannot do it alone, we need the private sector to assist with funding and training of teachers” (R\_2).*

Governments may decide to contract out services to private companies to support and strengthen its programme’s implementation (Klijn and Tiesman, 2000). In the education sector, PPPs are increasingly perceived as an innovative approach to education provision; PPPs allows the public sector to organize private funds to assist with project delivery, increase capacity and bring in expertise and new modern technologies (Klijn and Tiesman, 2000).

**(ii) Capacity**

The respondent further stated that:

*“The Department of Education does not have the institutional capacity to deliver ICT infrastructure to schools alone. When it comes to things like broadband and internet, we involve the private sector as well as the Department of Telecommunications and Postal Services to make sure that infrastructure is available to schools. Municipalities are also involved, because service delivery is the responsibility of government as a whole” (R\_2).*

The Project Manager stated that, Dimension Data delivered ICT services and equipment to the school as part of the PPP agreement with the Department of Education, the Project Manager recalled delivering the following ICTs:

*“As part of our agreement with DoE we sponsored the school with 5 trolleys which contain a computer, power station, keyboard and mouse, screen, projector and amplified speakers...it is installed in a cage that is why it is called a trolley system. And then we upload the educational content for GET grades...pure maths, physical science, life science, English 1<sup>st</sup> additional language and accounting” (R\_1).*

However, the Project Manager further explained that their delivery capacity is also constrained and suggested that more stakeholders need to get involved to increase capacity. The responses included:

*“We are working with many schools and we have limited capacity so we can’t focus on one school like we want to. We are under resourced and we are located far from schools” (R\_1).*



*“But what I think the issue is with companies is that, they are competing in schools but we need to work together as a team, and see how they can assist schools. Even if we are coming with different skills but exercising them in a way that they will complement each other. One company delivering ICTs in one school is not enough. Right now, in some schools learners do not have computers for e-learning. But also, security is a big problem but if we can work together something can be done. Teachers also need to be accountable for the system after using it, because these challenges affect us as well we end up wanting to give up but we do not want to. But also, even when schools have enough ICTs, they get overwhelmed and end up locking it up not using it” (R\_1).*

When questioned about the availability of ICTs for e-learning and the impact of availability on e-learning in the school, the Principal revealed the following issues:

*“Dimension Data provided us with one projector. Learners have to move to that classroom where the projector is held. It depends on the teachers need to use the projector and smartboard, so they would book for a session to hold their classes in there. Again, we have confined e-learning to science and accounting subjects because of limited ICT resources and physical space in terms of the classes” (R\_3).*

*“We were given 20 computers, a projector and smart board. There are the only resources are using. As we move, we hope to get more ICT resources.*

When teachers were asked about the availability of ICT resources for teaching purposes, one of the teachers explained that,

*“We only have one classroom where we go to conduct e-learning for the whole school. These resources they are talking about are used in one centre...so you can only use it for one class. So we end up having to book to use for a certain period of time” (G\_2).*

Another teacher suggested that increase in the availability of resources could improve their experiences and use of ICTs:

*“If we can get more sponsors, more people who can sponsor the school besides assistance from the government I think the e-learning process will be successful. It does not have to be finances but it could be computers. Like Vodacom they promised*

*to bring computers, then never come back. We have a lot of learners, we don't have a lab. If we could have a lab, everything will be fine" (G\_2).*

**(iii) Support**

The Dimension Data (DD) Project Manager echoed the sentiments of the Director and the importance of the private sector in supporting the government in implementing policy and expanding access to education opportunities, enhancing the quality of education stating that:

*"As an organization we need to help the government, government cannot do things alone. So we need to come on board and help the government and see to it that schools can be improved. What we can see is that, we are changing lives mostly in disadvantaged communities. Disadvantaged learners are now being exposed to technology unlike before they needed to private schools to be exposed to it and use it" (R\_1).*

From the responses from the DoE and the service provider it is clear that, Dimension Data is involved in e-learning processes to assist the department to overcome economic and social issues related to inadequate funding, support and capacity to ensure success of the e-learning programme. There is a common understanding from both respondents that the PPP is an effective mechanism used to organize private funds to assist government to fund its programmes. La Roche (2000: 22) argues that PPPs in education are established to overcome economic challenges that affect education provision but also bring in new modern technologies to enhance the quality of education.

In this section, there are two key issues that emerged from the responses, the relationship between the availability of ICT resources for use in the school and the issue of dependency on private sector. La Roche (2002) points out that, physical access does not always ensure that teachers will use ICTs in their teaching. The Principals' and teachers responses reveal that, the insufficient number of ICT resources delivered and available in the school limits the extent of e-learning implementation and equal opportunity for all learners and teachers to use ICTs in the school. The insufficiency of resources has resulted in only certain subjects being able to use the 'e-learning room' and ICT resources available. The issue of dependency goes back to the problem of capacity, funding and

support; as the Project Manager reveals Dimension Data also does not have enough capacity to deliver alone.

#### **5.4.2 Challenges to implementation using a PPP model**

This section attempts to explain the reasons for some of the challenges and successes experienced by the PPP in implementing e-learning. In an ideal world choosing the appropriate means for the government to implement policy would be an easy task and every approach to implementation has its shortcomings. The challenges associated with PPP implementation include: transparency, lack of commitment, legal and regulatory frameworks, monitoring and evaluation.

##### **(i) Transparency**

Debande (2004: 201) argues that the benefits of PPPs can only be sustained and ensure collaboration and support amongst all stakeholders if all parties are involved from the beginning of the PPP agreement and creating a Memorandum of Understanding between the parties. This will progressively help parties to make the best decisions; to ensure best use of resources, ensure value for money, transparency and achievement of desired results (ibid).

When asked about the process of establishing of the PPP, the Project Manager stated that,

*“The reason we partnered with the school was our involvement with former Minister Blade Nzimande through the Dambuza Community Trust. We were requested to partner with two schools in Dambuza including KwaPata Secondary School” (R\_1).*

When asked about the experiences of their relationship with the Education Department, the Project Manager stated that,

*“To be honest, we only had a few meeting with them because we had to go to new schools and old schools. The issue it's difficult to get District Directors to have a meeting with them. So we would have that stakeholder meeting once off in an effectively, but in some cases they meetings are not effective so we end up working on a operational level and at management level we can enforce what we need to” (R\_1)*

The respondent 1 further stated that,

*“We got involved in the programme through our affiliation with the National Minister of Higher Education but later we to establish a relationship with all other relevant stakeholders. We needed to get buy in from the District Department of Education because they own the school. We tried to create an MOU with the District. The realisation is that, we need to move step by step to go District level, Provincial level then National level. It has been a challenge from our side because we have limited resources in terms of personnel. So, our legal team already had an agreement or a draft...so usually we go to the Districts and give them the draft for them to read it and come back to us. But it takes much longer for them to come back to us. In principle we do have an agreement with them but it was not formalized” (R\_1).*

From the above responses it appears that, the PPP was not established through formalized process involving all relevant stakeholders, rather, a top-down approach. It seems that this approach to establishing the PPP created consequent issues in establishing relationships with other stakeholders and the DoE low-level workers that are tasked with implementing e-learning at district level. It has been suggested that this approach often leads to failure in implementation due to the unrealistic expectations that the actors involved in the implementation will behave as prescribed, whereas in practice the top-down establishment of objectives and processes often leads to resistance, disregard or done for the sake of compliance on the part of local actors (Mole, 2002: 179). Rosli and Rossi (2014: 4) argue that, successful implementation can be best achieved through paying attention to the objectives, strategies, activities and formal and informal relationships between the actors tasked with implementing the policy and seek to exploit them in order to structure actions at the local level (Rosli and Rossi, 2014: 4).

## **(ii) Lack of commitment**

The Project Manager expressed concern of the level of commitment of implementers during the implementation process:

*“Our expectation from the district is to help us to help the schools. In the schools, they had to give us registers and academic progress of learners so the District had to push the schools because in schools...it is challenging to deal with schools and get information. It’s unlike corporate in schools where you get some dedicated to do this, so the District office was supposed to assist us with that. But we have not succeeding*

*much with that. Our expectation was for them to make sure to give directives to schools” (R\_1).*

*“In the beginning the DoE were excited about the project but now we can’t reach them for meetings and so forth” (R\_1).*

It appears that the proper engagement of relevant stakeholders from the beginning of the process affected the relationship between the service provider, the DoE and other relevant stakeholders. Brynard (2007) argues that, in a process of implementing a project or programme, the implementers have to be fully committed from the beginning to the end, because if they are unwilling or unable to do so, little will happen. If various actors in the policy process are either unwilling or unable to implement the policy or programme, implementation will remain ineffective.

### ***(iii) Monitoring and Evaluation (M&E)***

Bagal (2008: 25) argues that monitoring of the operations and the performance of PPPs by requisite government oversight is another backbone to the success of PPPs. According to the author regular checks and mandatory submission of progress reports by management teams running PPPs may guarantee achievement of the objectives of PPPs (Bagal, 2008: 25).

Baalen and de Coning (2006: 242) suggest that a log frame can be used as a programme management tool to manage the complete project cycle from design to implementation, monitoring and evaluation.

When asked about the role and responsibilities of the DoE in monitoring and evaluating progress of the programme, the Director stated the following:

*“As a Department we have decided to do our own impact study but as I am saying to you, with the private sector it's all about compliance, they deliver then walk away. It shouldn't be like that, they should deliver and make sure that what is being delivered is working optimally, it's being used by teachers and learners and what benefits are there. For them doing an impact study, I would say no” (R\_3)*  
*“At the moment, we are in the process of developing a log frame or plan in place” (R\_3).*

The following responses were recorded from the Dimension Data manager regarding the organizational challenges they encounter:

*(1) Institutional capacity*

*“The schools provide us with registers and then the academic progress, but unfortunately on our side, we are under-resourced, myself and my colleague were responsible for all of this around 90 schools nationally. So we are stretched, so to do admin and operational work of having to install in new schools, go to old schools and maintain and still do admin, paperwork for evaluating was a bit of a challenge because the schools do not have access to emails” (R\_1).*

*“So, it’s a challenge for us to get information but early this year we decided to be more effective in terms of evaluating our impact” (R\_1).*

*(2) Obtaining data to conduct evaluations*

*In the schools, they had to give us registers and academic progress of learners so the District had to push the schools because in schools...it is challenging to deal with schools and get information. Its unlike corporate in schools where you get some dedicated to do this, so the District office was supposed to assist us with that. But we have not succeeding much with that. Our expectation was for them to make sure to give directives to schools because when we go to schools just to install” (R\_1).*

*“Another challenge that came up was that, we can’t have information of the learners in our system, there is a law, protection of personal information. So, there are so many things that we need to protect yourself from as a company or as an employee because once government finds out that you have learners information and it’s not protected there is a fine. So you can’t have 2000 learners’ information in your system and also we need parents’ consent, so it was a long process. So, we decided to put a hold on everything” (R\_1).*

He further mentioned that the way in which the system is being used makes it difficult to collect information for evaluations:

*“Using universal passwords and usernames has created a challenge for monitoring and evaluation of teachers use of the technology, we can’t come now to check how*

*many times, let's say Samukelisiwe has used the trolley because all the teachers are using one password. So, we make attempts to enhance effectiveness but we come across a lot of challenges then we have to go back to the drawing board"* (R\_1).

***(iv) Legal and regulatory frameworks***

According to the EU (2003) another fundamental aspect to the outcome of PPPs is the development of legal and regulatory frameworks to guide the operation and management of PPPs. EU observes that legal and regulatory frameworks determine the procedures to be followed in the identification of partners, debt agreement limits and types of PPPs acceptable and thus facilitating smooth implementation of PPPs (EU, 2003).

When asked about the process of establishing the PPP, the government official revealed that, *"There are two ways, the first one is when there is a delivery that has to take place in schools, the department invites all the companies that are capable in terms of the infrastructure in that have the expertise in terms of rolling out the infrastructure. The Department makes sure that these companies are accredited, that is very important for them to have an accreditation because for them to train teachers, the teachers must obtain the accreditation"* (R\_2).

Contrary to the government officials statement, when asked about the process of establishing of the PPP relationship, the Project Manager revealed that the correct channels were not followed. The responses included:

*"The reason we partnered with the school was our involvement with former Minister Blade Nzimande through the Dambuza Community Trust. We were requested to partner with two schools in Dambuza including KwaPata Secondary School"* (R\_1).

*"The formal and standard channels were not followed...we had an understanding that Dr Nzimande would make sure that there would be a smooth implementation and ensure that all relevant stakeholders would support the programme"* (R\_1).

According to the service provider there are challenges in establishing a formalized PPP which affected activities and implementation at the school level and efforts to get to work with the District office and other stakeholders:

*“In principle we do have an agreement with them but it was not formalized. In terms of the PPP agreement we had two things...a contract, tri party contract that is signed by the schools and the districts. In that contract our expectation from the district is to help us to help the schools...but they have not assisted us, in fact it has been a difficult task to schedule formal meeting with them” (R\_1).*

In terms of the legal and policy mandate for e-learning, the ICT Director stated he mentioned a regulatory body regulating private companies:

*The legislative mandate...for one there are policies for example we have ICASA. It is a regulatory body whose responsibility is to make sure that all companies, like Vodacom, Cell C and Telkom etc by all required to go out there and help schools. So there is legislation which is working for now but can be improved.*

This section revealed that, the success of the PPP between DoE and Dimension Data was undermined by a lack of transparency from the beginning of the establishment of the PPP arrangement, a top-down approach was used to select the service provider and enforce the PPP. The PPP was not established through involvement of the District office which may explain the lack of co-ordination between the partners. It appears that, this approach led to challenges in creating platforms for stakeholder engagements with other relevant stakeholders who would assist the Project Manager to gain information to assess the progress of implementation for possible modifications to ensure programme success. The Department of Education seems to be showing a lack of commitment to ensuring the success of e-learning at KwaPata Secondary School.

## **5.5 Conclusion**

Chapter Four presented an analysis of the findings from the focus groups and semi-structured interviews. Using extensive quotes from respondents, the following five themes have been discussed: (1) Purpose of e-Learning, (2) E-learning implementation, sub themes- (ii) challenges affecting use and access to ICTs, (iii) necessary conditions for ICT for pedagogical use in schools, and (3) Implementing e-learning learning using PPP, sub themes- (iv) delivery of ICT services and resources, (v) factors affecting the success of PPP success. Each theme revealed the factors hindering and facilitating e-learning implementation at KwaPata Secondary School.



The study revealed that e-learning is being implemented at KwaPata but to a limited extent because teachers have a limited understanding of the role and uses of information communication technologies for teaching and learning. Their understanding focuses on use of ICTs in the school for information presentation which diverts from the main purpose of e-learning which is to create a learner-focused learning environment. The lack of understanding of e-learning is attributed to insufficient training of all teaching staff because of limited space and time to administer training to all teachers' training was conducted on a voluntary basis not compulsory and was 'once-off'. Ultimately, this has affected learners' experience of e-learning to receiving 'photocopied hand outs' instead of achieving the purpose of creating a 'learner-centric' learning environment. Insufficient resources (training and ICT hardware/software) are the contributor to teachers' inability to use ICTs in their teaching and limitation of learners accessibility to ICT use in their learning.

The e-learning programme is implemented using a PPP model, the partnership was established between the Department of Education and a telecommunications service provider which is Dimension Data to assist the Department to deliver teacher training; ICT tools such as smart boards, computers for e-learning implementation to assist learners and teachers to access and use ICTs to improve teaching and learning. But, the ICT facilities and services provided are not simply enough for all teachers and learners to access and use frequently in order to integrate ICT use in classroom teaching and learning. There is an insufficient number of ICT resources delivered and available in the school which limits the extent of e-learning implementation and equal opportunity for all learners and teachers to use ICTs in the school. Furthermore, the insufficiency of resources has resulting in only certain subjects being able to use the 'e-learning room' and ICT resources available. Dimension Data also does not have enough capacity to deliver alone, like the Department of Education the service provider is faced with the same problem of lack of adequate capacity, funding and support.

The success of the PPP between DoE and Dimension Data is undermined by a lack of transparency from the beginning of the establishment of the PPP arrangement, lack of commitment from other relevant stakeholders, limited communication and information to monitor and evaluate the programme to make changes and improve implementation strategies. It was found that, from the beginning of the e-learning implementation process that there was a lack of stakeholder involvement for the development and execution of a

shared vision for e-learning at KwaPata Secondary School. The challenge seems to be a result of lack of coordination amongst the stakeholders despite attempts to bring stakeholders together. There is little evidence of collaboration and support, there is a great need and opportunity for greater stakeholder involvement to increase prospects for funding, expertise and safety and security but efforts are undermined by a lack of co-ordination, co-operation and communication amongst stakeholders.

## CHAPTER SIX: CONCLUSION

The challenges of implementing e-learning in schools include economic and social obstacles of delivering ICTs, the challenge of integrating of ICTs into teaching and learning and issues facing teachers and learners in terms of access to and use of ICTs. Despite these challenges, education policy makers and interest groups insist that e-learning has the best prospect of improving teaching and learning and management of education systems in developed and developing nations (Kozma, 2008: 11). This study's aim was to examine the factors facilitating and hindering e-learning implementation at KwaPata Secondary School. The study set out to analyze the role and impact of using a PPP model to implement e-learning using KwaPata Secondary School as a case study.

The following broad questions guided the investigation:

- What are teachers' and learners' understanding of e-learning at KwaPata Secondary School?
- What ICT facilities and resources are available at KwaPata Secondary to implement e-learning?
- What are teachers' experiences of the implementation of e-learning in their teaching at KwaPata Secondary School?
- What are learners' experiences of using e-learning at KwaPata Secondary School?
- What are the challenges or opportunities encountered in implementing e-learning using a PPP model at KwaPata Secondary School?

In answering the first research question, the study revealed that, e-learning is largely reduced to information presentation instead of creating a 'learner-centric' learning environment due to limited understanding of the role and uses of electronic technologies by teachers. The lack of understanding of the purpose of e-learning at KwaPata Secondary School is a result of non-compulsory and once-off ICT training sessions provided for teachers which only a few teachers attended. However, this is not only a consequence of the service providers approach to providing the training. Dimension Data could only train a few teachers at a time because KwaPata Secondary School has a large number of teachers, limited time and space to deliver training to all educators. As a result, some teachers are more conscious of the benefit and use of ICTs for teaching and learning, while others are not. However, a few educators have some

understanding of the rationale of e-learning to “*move away from traditional learning practices*”. But understanding remains a significant issue in the school that can be overcome with provision of adequate ICT skills training for all teachers in the school.

In terms of the second and third research questions, teachers’ inability to implement e-learning in their teaching is affected by the lack of adequate resources and inadequate time to develop and maintain e-learning in the classroom. The lack of adequate resources and facilities has influenced the extent to which ICT integration into classroom activities are done. Instead of being used in a structured and ongoing way, teachers are only able to use technology for e-learning on a random or ad hoc basis. The school does not have a computer lab only a small ‘*e-learning classroom*’ with 20 computers, a projector and smart board which is used only by teachers who teach Mathematics, Science and Accounting subjects; some learners have never been taught how to use ICTs and have never used ICTs to learn. Furthermore, due to a lack of adequate resources and facilities teachers have to book for a long period of time to use the smart board and projector which decreases teachers’ motivation to use the technology.

Moreover, teachers’ lack of appreciation for e-learning and value of ICTs prevent teachers from establishing creative ways to share access to ICTs and assist one another to use the technology. This is illustrated in their frequent forgetting of passwords which becomes an excuse for teachers not to implement e-learning in their teaching. While there is some display of leadership amongst a small group of educators who are able to use the technology on a regular basis and are able to show and encourage other teachers how to use the technology, these efforts remain limited because some of the teachers don’t understand the value of e-learning compared to traditional teaching methods. Technophobia is another disempowering factor that discourages teachers’ use of ICTs and increases level of concentrated leadership as opposed to a culture of distributed leadership in the school where teachers share ideas on how to use and expand access to ICT use. These practical and social issues have affected the pace and effectiveness of the e-learning implementation at KwaPata Secondary School.

In terms of research question four, the study found that the public-private partnership established between the Department of Education and Dimension Data to assist the Department to deliver teacher training, ICT tools such as smart boards, computers for e-learning implementation to assist learners and teachers to access and use ICTs to improve

teaching and learning is not enough to fully implement e-learning at KwaPata Secondary School. There remain a large number of teachers and learners who are unable to gain frequent access to ICTs because there are only there are 20 computers, one smart board, amplified speakers and projector for the whole school to use. The ICT resources delivered by the service provider are not enough to ensure that all teachers and learners are able to access and use e-learning tools.

Due to the great demand for delivery of ICTs to ill-resourced schools service providers are unable to single handedly provide enough e-learning tools for all teachers and learners. The study found that, the school has challenges maintaining and upgrading the available ICT hardware and software which has also contributed to the neglect of ICT use. It is the responsibility of the service provider takes to upgrade and maintain infrastructure, but often the Principal and the SGB have to take up this role because the service provider takes too long to address these issues. As suggested by Dimension Data manager, e-learning programmes should be used as platforms for joint ventures with other telecommunications companies and Department of Education instead of companies competing to deliver alone. It was revealed that from the beginning of the e-learning implementation process there was a lack of stakeholder involvement for the development and execution of a shared vision for e-learning at KwaPata Secondary School.

There is a lack of coordination amongst the stakeholders despite attempts to coordinate activities. There is little evidence of collaboration and support, there is a great need and opportunity for greater stakeholder involvement to increase prospects for funding, expertise and safety and security, but efforts are undermined by a lack of co-operation and communication amongst stakeholders. It appears that, the success of the PPP between DoE and Dimension Data is undermined by a lack of transparency from the beginning of the establishment of the PPP arrangement, a top-down approach was used to select the service provider and enforce the PPP. The PPP was not established through involvement of the District office which explains the lack of co-ordination between the partners as well as the absence of a Memorandum of Understanding (MOU) which would hold parties accountable for their roles and responsibilities during the implementation process. This approach led to challenges in creating platforms for stakeholder engagements with other relevant stakeholder who would assist the Project Manager to gain information to assess the progress of implementation for possible modifications to improve programme success, establish ways to

organize more support and funding to increase availability of ICT resources to ensure successful e-learning implementation.

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## **APPENDICES**

### **Appendix A**

#### **Focus Group guide for teachers**

##### **An Implementation Analysis of e-Learning: A Case Study of KwaPata Secondary School**

Dear Participants,

1. Your kind assistance is requested in answering questions on the above topic
2. Please note this interview is for academic research purposes and the data collected will not be used for any other purposes
3. Your privacy and anonymity will be protected

#### **QUESTIONS**

1. What is your understanding of e-learning?
2. What resources do you have to help you to implement the e-learning in your classroom?
3. What types of ICT (information communication technology) resources do you use to teach?
4. If you have enough resources what role is played by resources for proper implementation of the e-Learning?
5. How do you feel about using ICTs to teach in your classroom?
6. What is your experience of the e-learning training?
7. How were you trained to use ICTs to teach in the classroom?
8. What kinds of ICT do you use to facilitate teaching and learning process in your classroom?
9. How has the e-learning programme changed the way you teach?
10. What challenges have you experienced in accessing ICT resources for e-learning in your classroom?
11. In your opinion, how can these challenges be resolved?
12. What do you think support from the Department will help you to be better able to implement e-Learning?
13. What challenges have you experienced in implementing e-learning in your classroom?
14. In your opinion, how can these challenges be resolved?

## **Appendix B**

### **Focus Group guide for the learners**

#### An Implementation Analysis of e-Learning: A Case Study of KwaPata Secondary School

Dear Participants,

1. Your kind assistance is requested in answering questions on the above topic
2. Please note this interview is for academic research purposes and the data collected will not be used for any other purposes
3. Your privacy and anonymity will be protected
  1. What is your understanding of e-learning?
  2. What types of ICT (information communication technology) do you use to learn?
  3. What resources do you have to help you to implement e-learning in your classroom?
  4. How has the relationship between you and your teacher changed since e-learning began?
  5. How do you access computers/tablets for learning purposes?
  6. How has the e-learning programme changed the way you learn?
  7. What challenges have you encountered in accessing computers for your learning purposes?
  8. What challenges have you encountered in using computers for your learning purposes?



## **Appendix C**

### **Interview guide for Principal at KwaPata Secondary School**

#### An Implementation Analysis of e-Learning: A Case Study of KwaPata Secondary School

Dear Participant,

1. Your kind assistance is requested in answering questions on the above topic
2. Please note this interview is for academic research purposes and the data collected will not be used for any other purposes
3. Your privacy and anonymity will be protected.

#### **Interview Questions**

1. What is your understanding of e-learning?
2. How does the e-learning process take place at the school? \
3. What kinds of ICT resources are delivered to the school for the implementation of e-learning?
4. What issues has the school experienced in accessing adequate ICT resources to facilitate the e-learning process?
5. What is your role and responsibilities during the implementation of e-learning at the school?
6. What kind of necessary support do you provide to teachers in implementing e-learning?
7. How does the implementation of e-Learning enhance teaching and learning in the school?
8. What challenges do you and teachers in your school encounter when implementing e-learning?

## **Appendix D**

### **Interview guide for the Dimension Data E-Learning Manager**

#### An Implementation Analysis of e-Learning: A Case Study of KwaPata Secondary School

Dear Participant,

1. Your kind assistance is requested in answering questions on the above topic
2. Please note this interview is for academic research purposes and the data collected will not be used for any other purposes
3. Your privacy and anonymity will be protected.

#### **Interview questions**

1. Briefly describe your role in your organization in relation to the implementation of e-learning process in line with the White Paper on e-Education at KwaPata Secondary School?
2. What is the relationship between your organization and the Kwazulu-Natal Department of Education?
3. What is the relationship between your organization and KwaPata Secondary School?
4. How was the relationship established? What was the process?
5. What is your role and responsibilities during the implementation of e-learning at the school?
6. What kind of necessary support do you provide to teachers in implementing e-learning?
7. What kinds of ICT resources and facilities are delivered to the school to implement e-learning?
8. How do you train the teachers to implement e-learning?
9. What is your experience of training the teachers at KwaPata Secondary to implement e-learning?
10. How has the government been working with you to facilitate the PPP?
11. What platforms are used where your organization sits together with the KZN Education Department and/or School Principal to deal with challenges and planning?
12. What are the necessary conditions for success in delivery of ICT services and equipment through PPP model?
13. What are the benefits of using such PPP model to implement e-learning?
14. What challenges has the company been experiencing with such an arrangement as the PPP?
15. What lessons have you learnt in delivering ICTs using a PPP model?
16. Generally how has your experience been with e-learning at KwaPata Secondary School so far

## **Appendix E**

### **Interview guide for KZN Department of Education ICT Manager (Basic Education)**

#### **An Implementation Analysis of e-Learning: A Case Study of KwaPata Secondary School**

Dear Participant,

1. Your kind assistance is requested in answering questions on the above topic
2. Please note this interview is for academic research purposes and the data collected will not be used for any other purposes
3. Your privacy and anonymity will be protected.

#### **Interview questions**

1. What is your understanding of e-learning?
2. What is your role and responsibilities during the implementation of e-learning at the school?
3. How do you finance such e-learning projects?
4. What process do you use to select the service provider to deliver ICT training and equipment to schools?
5. Who are the major role players in delivering e-learning to the school?
6. What kind of necessary support do you provide to teachers in implementing e-learning?
7. What is your experience of working with the service provider to implement e-learning?
8. In your opinion, are Public Private Partnerships (PPPs) an appropriate and sustainable tool in delivering ICTs in schools? If not, why? If yes, why?
9. Which legislation and policies advocate for the use of the PPP model in education and e-learning?
10. What challenges are you experiencing of implementing e-learning using PPP model?
11. What lessons have you learnt in delivering ICTs using a PPP model?